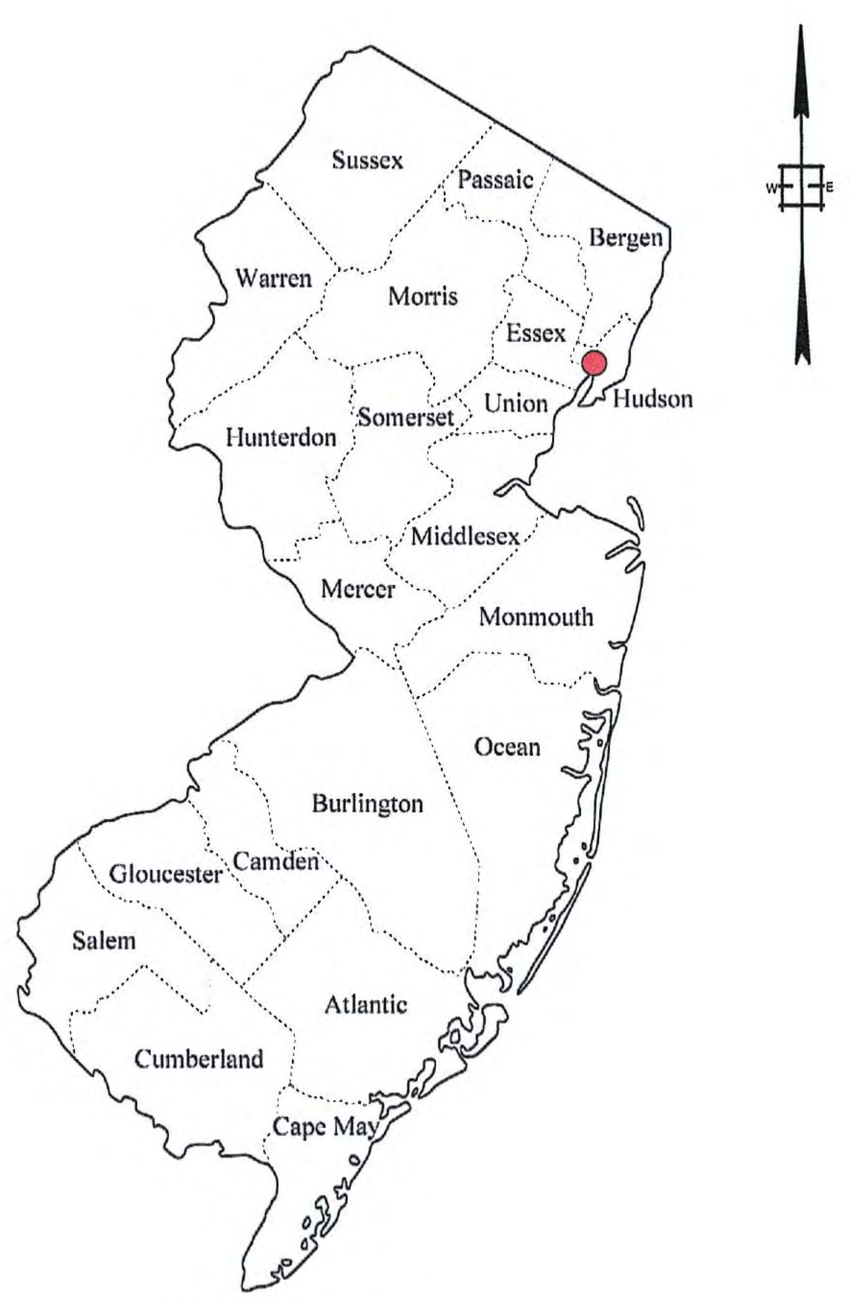
US Army Corps
of Engineers
Kansas City District

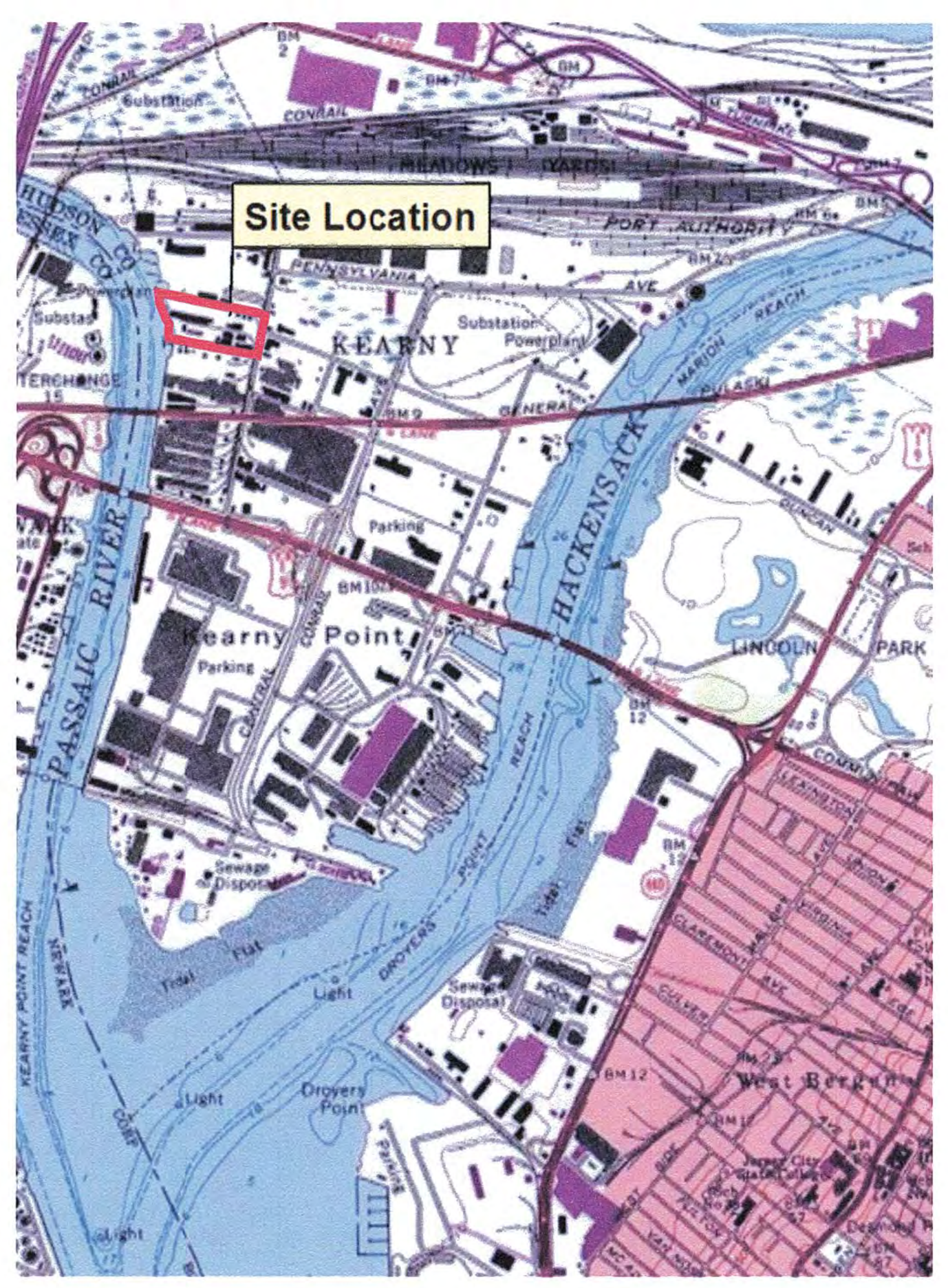
SYNCON RESINS SUPERFUND SITE
OPERABLE UNIT 2
SOUTH KEARNY
HUDSON COUNTY, NEW JERSEY

100% REMEDIAL DESIGN - REVISION 2



NEW JERSEY

LOCATION MAP
NTS



VICINITY MAP
NTS

AERIAL VIEW
NTS

351644

US Army Corps
of Engineers
Kansas City District

KERSHU TAN
N.J. PROFESSIONAL ENGINEER
NO. 24GE04395200

Mark	Description	Date	Appr.
2	ADDRESSED USEPA AND USACE COMMENTS	01/2016	MR
1	GENERAL REVISIONS - ADDED BUILDING DEMOLITION	11/2015	MR

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

CDM Federal Programs Corporation

Designed by: A. BOURGEOIS
Dwn by: G. RODRIGUEZ
Ckd by: M. RAHMANI
Reviewed by: T. MATHEW
Submitted by: K. TAN
Date: JANUARY 2016
Task Order: 003
Contract no.: W912DQ-11-D-3004
Plot date: 1/8/2016
Plot by: Rodriguez, Gilberto
Scale: 1:1
ANSIF
File name: GCS00000.dwg

SYNCON RESINS SUPERFUND SITE
SOUTH KEARNY, HUDSON COUNTY, NEW JERSEY
REMEDIAL DESIGN

COVER SHEET

SHEET NO.

O:\Project_Files_KC_Corps1\Syncon Resins\Remedial Design\CADD\ 1-COVER_SHEET 02/09/12 14:16 larsonej XREFS: SCRSBRDR

DRAWING INDEX

SHEET NO.	DRAWING TITLE
	COVER SHEET
G–1	GENERAL NOTES, DRAWING INDEX, LEGEND AND SYMBOLS
C–1	SITE PREPARATION AND DEMOLITION PLAN
C–2	PRE–EXCAVATION SAMPLING PLAN
C–3	EXCAVATION PLAN
C–4	POST–EXCAVATION SAMPLING PLAN
C–5	WATER TREATMENT SYSTEM PROCESS FLOW DIAGRAM
C–6	SITE–WIDE RESTORATION PLAN
CD–1	CIVIL DETAILS
CD–2	EXISTING EXTRACTION WELL DETAILS
S–1	EXCAVATION SUPPORT SYSTEM PLAN AND DETAILS
E–1	LEGEND AND ABBREVIATIONS I
E–2	LEGEND AND ABBREVIATIONS II
E–3	ELECTRICAL SITE PLAN
E–4	ENLARGED PLAN
E–5	EXISTING ONE–LINE DIAGRAM
ED–1	ELECTRICAL DETAILS

GENERAL NOTES

GENERAL NOTES:

1. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL EROSION, SEDIMENT AND STORMWATER CONTROL, AS NECESSARY FOR THE DURATION OF THE PROJECT. PLEASE NOTE THAT THE ENTIRE SITE IS WITHIN THE 100–YEAR FLOOD ZONE (ELEVATION BELOW 9.1 FEET AMSL NAVD 88) WITH THE EXCEPTION OF THE BERMED AREA IN THE NORTHEAST CORNER.
2. THE LOCATION OF UNDERGROUND UTILITIES SHOWN IS APPROXIMATE. THERE MAY BE UNDERGROUND UTILITIES WHICH EXIST AND ARE UNKNOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES AND IF NECESSARY, PERFORM GEOPHYSICS SURVEY TO FIELD VERIFY THE LOCATION OF UTILITIES.
3. AFTER AWARD OF CONTRACT, SITE SURVEY FILES WILL BE MADE AVAILABLE TO THE CONTRACTOR.
4. THE CONTRACTOR SHALL CONTROL ACCESS INTO THE SITE AT ALL TIMES DURING REMEDIATION, AND SHALL BE RESPONSIBLE FOR THE HEALTH AND SAFETY OF ALL PERSONS IN THE AREA.
5. THE CONTRACTOR SHALL PROTECT THE EXISTING CONTAMINATED WATER TREATMENT SYSTEM.

SITE PREPARATION AND DEMOLITION PLAN

- EXISTING CONCRETE
- EXISTING CHAIN LINK FENCE
- EXISTING COLLECTION TRENCH
- 42 — EXISTING SURFACE CONTOUR
- OH UP — UTILITY POLE (TO BE PROTECTED)
- UP — UTILITY POLE (TO BE ABANDONED)
- PW — EXISTING POTABLE WATER LINE
- W — EXISTING WATER LINE – CONTAMINATED WATER
- E — EXISTING UNDERGROUND ELECTRIC LINE
- OH — EXISTING OVERHEAD UTILITY
- DEBRIS PILE
- EXISTING RAILROAD TRACKS
- EXISTING ROAD
- CEMENT–BENTONITE SLURRY WALL
- FIRE HYDRANT
- ASPHALT PAVEMENT
- EXISTING CONCRETE SLAB TO BE REMOVED
- EXISTING RAIL TO BE DEMOLISHED
- EXISTING BUILDING TO BE DEMOLISHED TO TOP OF SLAB
- EXISTING ASPHALT PAVEMENT TO BE DEMOLISHED
- EXISTING BUILDING TO BE DEMOLISHED, SLAB AND FOUNDATION TO BE REMOVED
- MONITORING WELL
- PIEZOMETER
- T–1 — HISTORICAL TEST PIT LOCATION (1994)
- 2' TANK CAP / CONC. PAD W/PUMP — EXISTING EXTRACTION WELL TO BE PROTECTED
- SUMP #1 / CONC. PAD W/PUMP — EXISTING SUMP TO BE PROTECTED
- CONCRETE REVETMENT
- GRAVEL ACCESS ROAD

PRE-EXCAVATION SAMPLING PLAN / EXCAVATION PLAN

- (A) — EXCAVATION AREA
- PRIMARY EXCAVATION LIMITS AND SLOPE 2H:1V
- TSCA AREA
- PRE–EXCAVATION SOIL BORING

RESTORATION PLAN / CIVIL DETAILS

- 42 — FINAL GRADE ELEVATION
- SEEDED AREA
- GRAVEL AREA
- SECTION (X / X) — DETAIL DESIGNATION; SHEET DESIGNATION
- EXISTING SOIL
- OFFSITE CLEAN FILL
- +6.5 — SPOT ELEVATION

MISCELLANEOUS ABBREVIATIONS

ACM	ASBESTOS CONTAINING MATERIAL	MW	MONITORING WELL
AMSL	ABOVE MEAN SEA LEVEL	NAD	NORTH AMERICAN DATUM
AST	ABOVEGROUND STORAGE TANK	NAVD	NORTH AMERICAN VERTICAL DATUM
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS	NESHAP	NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS
BGS	BELOW GROUND SURFACE	NJDEP	NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
COCs	CONTAMINANTS OF CONCERN	NJPDES	NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM
CONC	CONCRETE	NPT	NATIONAL PIPE THREAD
CWTS	CONTAMINATED WATER TREATMENT SYSTEM	NTS	NOT TO SCALE
DI	DUCTILE IRON	OD	OUTER DIAMETER
DIA	DIAMETER	PCBs	POLYCHLORINATED BIPHENYLS
DIM	DIMENSION	PSE&G	PUBLIC SERVICE ELECTRIC & GAS COMPANY
EL	ELEVATION	PSI	POUNDS PER SQUARE INCH
EPA	ENVIRONMENTAL PROTECTION AGENCY	PVC	POLYVINYL CHLORIDE
FT	FEET	PW	POTABLE WATER
GSC	GALVANIZED CARBON STEEL	PZ	PIEZOMETER
HYD	HYDRANT	SCH	SCHEDULE
IN	INCH	SF	SQUARE FEET
LBS	POUNDS	SS	STAINLESS STEEL
MAX	MAXIMUM	TP	TEST PIT
MH	MANHOLE	TSCA	TOXIC SUBSTANCES CONTROL ACT
MIN	MINIMUM	TW	TEMPORARY WELL
		TYP	TYPICAL
		USACE	UNITED STATES ARMY CORPS OF ENGINEERS
		UST	UNDERGROUND STORAGE TANK
		WW	WASTEWATER

UTILITY COMPANY CONTACTS

DESCRIPTION	CONTACT
NEW JERSEY ONE CALL SYSTEM UNDERGROUND UTILITY MARKOUTS:	1–800–272–1000
ELECTRIC	PSE&G CUSTOMER SERVICE (732) 750–0404
WATER	TOWN OF KEARNY RICHARD R. FERRAIOLI SUPERINTENDENT 570 ELM STREET KEARNY, NJ 07032 (201) 955–0723
TELEPHONE	VERIZON CUSTOMER SERVICE 1–(800)–229–9911

CONSTRUCTION NOTES

CONSTRUCTION SEQUENCE

THE CONTRACTOR SHALL PERFORM CONSTRUCTION IN THE FOLLOWING RECOMMENDED SEQUENCE, OR AN ALTERNATE SEQUENCE AS APPROVED BY THE CONTRACTING OFFICER:

SITE PREPARATION

1. OBTAIN ALL APPLICABLE PERMITS AND APPROVALS REQUIRED FOR THE REMEDIAL CONSTRUCTION ACTIVITIES.
2. PERFORM UTILITY MARKOUTS AND CLEARANCES. TERMINATE AND CAP EXISTING POTABLE WATER SERVICE LINES AS SHOWN ON SHEET C–1 OR AS DIRECTED BY THE CONTRACTING OFFICER.
3. ERECT SOIL EROSION, SEDIMENT, AND STORMWATER CONTROL BARRIERS IN ACCORDANCE WITH SPECIFICATION SECTION 02370 AND THE CONTRACTOR'S APPROVED PLAN.
4. PERFORM CLEARING OF ALL TREES WITHIN THE CLEARING LIMITS SHOWN ON SHEET C–1. GRUBBING SHALL BE PERFORMED AS NECESSARY DURING THE REMEDIAL EXCAVATION.
5. CONSTRUCT THE STAGING AREA AND TEMPORARY FACILITIES AS SHOWN ON SHEET C–1 AND IN ACCORDANCE WITH SPECIFICATION SECTION 01500. STAGING AREA SUB–BASE SHALL BE ESTABLISHED AT 8 FT AMSL.
6. ABANDON MONITORING WELLS AS INDICATED ON SHEET C–1 AND IN ACCORDANCE WITH SPECIFICATION SECTION 02525. PROTECT MONITORING WELLS TO REMAIN.
7. CONSTRUCT EXCAVATION STOCKPILE AREAS IN EXCAVATION AREA E IN ACCORDANCE WITH THE CONTRACT DRAWINGS OR THE CONTRACTOR'S APPROVED PLAN.

DEMOLITION AND PRE–EXCAVATION SAMPLING OPERATIONS

PERFORM THE BUILDING DEMOLITION AS SHOWN ON SHEET C–1 AND IN ACCORDANCE WITH SPECIFICATION SECTION 02410, IN THE FOLLOWING RECOMMENDED SEQUENCE:

1. PERFORM BUILDING INSPECTION TO DETERMINE THE STRUCTURAL INTEGRITY OF EACH BUILDING TO BE DEMOLISHED AS INDICATED ON SHEET C–1, AND COMPLETE ASBESTOS CONTAINING MATERIAL (ACM) AND LEAD BASED PAINT INSPECTIONS OF BUILDINGS THAT ARE CONSIDERED STRUCTURALLY SOUND TO ENTER.
2. PERFORM INSPECTION OF ABOVEGROUND STORAGE TANKS (ASTs) TO VERIFY PRESENCE OF ANY TYPE OF PRODUCT IN THE ASTs. IF ANY PRODUCT IS FOUND, CHARACTERIZE THE CONTENT, AND DISPOSE OFFSITE AT AN APPROVED FACILITY.
3. COMPLETE ACM AND LEAD BASED PAINT ABATEMENT, AND REMOVE BUILDING CONTENTS AND ASTs, AS NECESSARY, BASED ON STRUCTURAL INTEGRITY OF THE BUILDINGS. DISPOSE OF ACM AT AN APPROVED OFFSITE DISPOSAL FACILTIY.
4. DEMOLISH ALL BUILDINGS AND STRUCTURES AS INDICATED ON SHEET C–1. SALVAGE AND PROTECT ITEMS MARKED FOR REINSTALLATION DURING SITE RESTORATION. THE EIGHT BUILDINGS LOCATED WITHIN THE EXCAVATION LIMIT (BUILDINGS 1A, 6A, 7A, 9, 11, 12, THE NORTHEAST BUILDING, AND THE SHED) SHALL BE DEMOLISHED FIRST TO ALLOW EXCAVATION OPERATIONS TO COMMENCE. IF BUILDING IS STRUCTURALLY UNSOUND, BUILDING SHALL BE DEMOLISHED AND DISPOSED OF AS ACM.
5. INSTALL SOIL BORINGS AND COLLECT PRE–EXCAVATION SAMPLES AS INDICATED ON SHEET C–2.
6. DEMOLISH SLAB AND FOOTINGS OF BUILDINGS 1, 7, 8, 10, AND THE RED BUILDING, IF REQUIRED, CONCURRENT WITH EXCAVATION OPERATIONS OR AS DIRECTED BY THE CONTRACTING OFFICER.

EXCAVATION OPERATIONS

PERFORM THE REMEDIAL EXCAVATION AS SHOWN ON SHEET C–3 AND IN ACCORDANCE WITH SPECIFICATION SECTION 02111, IN THE FOLLOWING RECOMMENDED SEQUENCE:

1. REMEDIATE EXCAVATION AREAS A, B, AND C.
2. REMEDIATE EXCAVATION AREA D TO PREPARE THIS AREA FOR INSTALLATION OF THE TEMPORARY WATER TREATMENT SYSTEM.
3. PRIOR TO EXCAVATION OF AREA I, IMPLEMENT DEWATERING MEASURES AND INSTALL THE TEMPORARY WATER TREATMENT SYSTEM AND CONTAINMENT AREA AS SHOWN ON THE CONTRACT DRAWINGS OR IN ACCORDANCE WITH THE CONTRACTOR'S APPROVED PLAN. INSTALL SHEETING ALONG THE SLURRY WALL AS SHOWN ON SHEET S–1 AND IN ACCORDANCE WITH SPECIFICATION SECTION 02250.
4. PRIOR TO EXCAVATION OF THE WEST SIDE OF AREA I, THE CONTRACTOR SHALL COORDINATE WITH NJDEP TO SHUT DOWN THE EXISTING ONSITE WATER TREATMENT SYSTEM. LOCKOUT/TAGOUT EXTRACTION WELL C AND DISASSEMBLE EXTRACTION WELL C AND CONTROL PANEL IN ACCORDANCE WITH THE INSTRUCTIONS ON SHEET CD–2 AND E–4.
5. REMEDIATE EXCAVATION AREAS F, G, AND H CONCURRENT WITH STEPS 3 AND 4 ACTIVITIES.
6. REMEDIATE EXCAVATION AREA I. THE DEWATERING/TEMPORARY WATER TREATMENT SYSTEM SHALL BE FULLY OPERATIONAL PRIOR TO THE START OF EXCAVATION IN THIS AREA. REMOVE THE GROUNDWATER COLLECTION TRENCH, WATER LINE AND ELECTRICAL CONDUITS WITHIN THE SLOPED EXCAVATION AREA CONCURRENT WITH EXCAVATION AS NECESSARY.
7. REMEDIATE EXCAVATION AREA E. EXCAVATION LIMITS IN AREA E MAY BE REVISED BASED ON THE PRE–EXCAVATION SAMPLE RESULTS. CONCURRENTLY, REMOVE THE EXCAVATION STOCKPILE.
8. FOR EACH EXCAVATION AREA, INSPECT EXCAVATION BOTTOMS AND SIDEWALLS FOR CONTAMINATION USING VISUAL AND OLFACTORY OBSERVATIONS AND FIELD SCREENING WITH A PHOTOIONIZATION DETECTOR. PERFORM POST–EXCAVATION SAMPLING AS SHOWN ON SHEET C–4 AND IN ACCORDANCE WITH SPECIFICATION 02111, PRIOR TO BACKFILL AS SPECIFIED IN SECTION 02201.

SITE RESTORATION

PERFORM SITE RESTORATION AS SHOWN ON SHEET C–6 AND IN ACCORDANCE WITH SPECIFICATION SECTION 02201, IN THE FOLLOWING RECOMMENDED SEQUENCE:

1. PERFORM BACKFILLING AND COMPACTION OF CLEAN FILL TO THE FINISHED SUBGRADES CONCURRENT TO EXCAVATION ACTIVITIES TO MINIMIZE OPEN EXCAVATION AREA.
2. AFTER THE COMPLETION OF ALL EXCAVATION WORK, RESTORE THE SITE TO THE FINISHED GRADES WITH 6–INCHES OF 1–1/2" GRAVEL OR TOPSOIL AS SHOWN ON SHEET C–6.
3. REINSTALL EXTRACTION WELL C AND ITS ASSOCIATED VALVE BOX AND CONTROL PANEL IN ACCORDANCE WITH THE INSTRUCTIONS ON SHEET CD–2.
4. INSTALL GROUNDWATER COLLECTION TRENCH, INFLUENT PIPE, AND ELECTRICAL CONDUIT IN ACCORDANCE WITH SHEET C–6 AND THE ELECTRICAL DRAWINGS.
5. PERFORM HYDRAULIC AND CONTROL FUNCTIONAL TESTING TO EVALUATE FUNCTIONALITY AND OPERATION OF EXTRACTION WELL C IN ACCORDANCE WITH SHEET CD–2.
6. DEMOBILIZE THE TEMPORARY WATER TREATMENT SYSTEM.
7. REPLACE FENCING REMOVED DURING THE REMEDIAL CONSTRUCTION AS SHOWN ON SHEET CD–1 AND IN ACCORDANCE WITH SPECIFICATION 02821.
8. PERFORM TOPSOIL AND SEEDING IN ACCORDANCE WITH SPECIFICATION SECTION 02921.
9. INSTALL MONITORING WELLS IN ACCORDANCE WITH SPECIFICATION SECTION 02525.
10. REMOVE AND DISPOSE OF ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES UPON COMPLETION OF ALL RESTORATION WORK.
11. REMOVE TRAILERS AND STAGING AREA AND DEMOBILIZE FROM THE SITE.

US Army Corps of Engineers
Kansas City District

KERSHU TAN
NJ PROFESSIONAL ENGINEER

Mark	Description	Date	Appr.
2	GENERAL REVISIONS - ADDED BUILDING DEMOLITION	11/2015	MR
1	ADDRESSED USEPA AND USACE COMMENTS	01/2016	MR

Designed by: C. WHITTON | Date: JANUARY 2016 | ANSIF
Dwn by: G. RODRIGUEZ | Ckd by: M. RAHMANI | Task Order: 003
Reviewed by: T. MATHEW | Contract no.: W912DQ-11-D-3004
Submitted by: K. TAN | Plot date: 1/8/2016 | Plot by: Rodriguez, Gilberto | Scale: 1:1

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

CDM Federal Programs Corporation

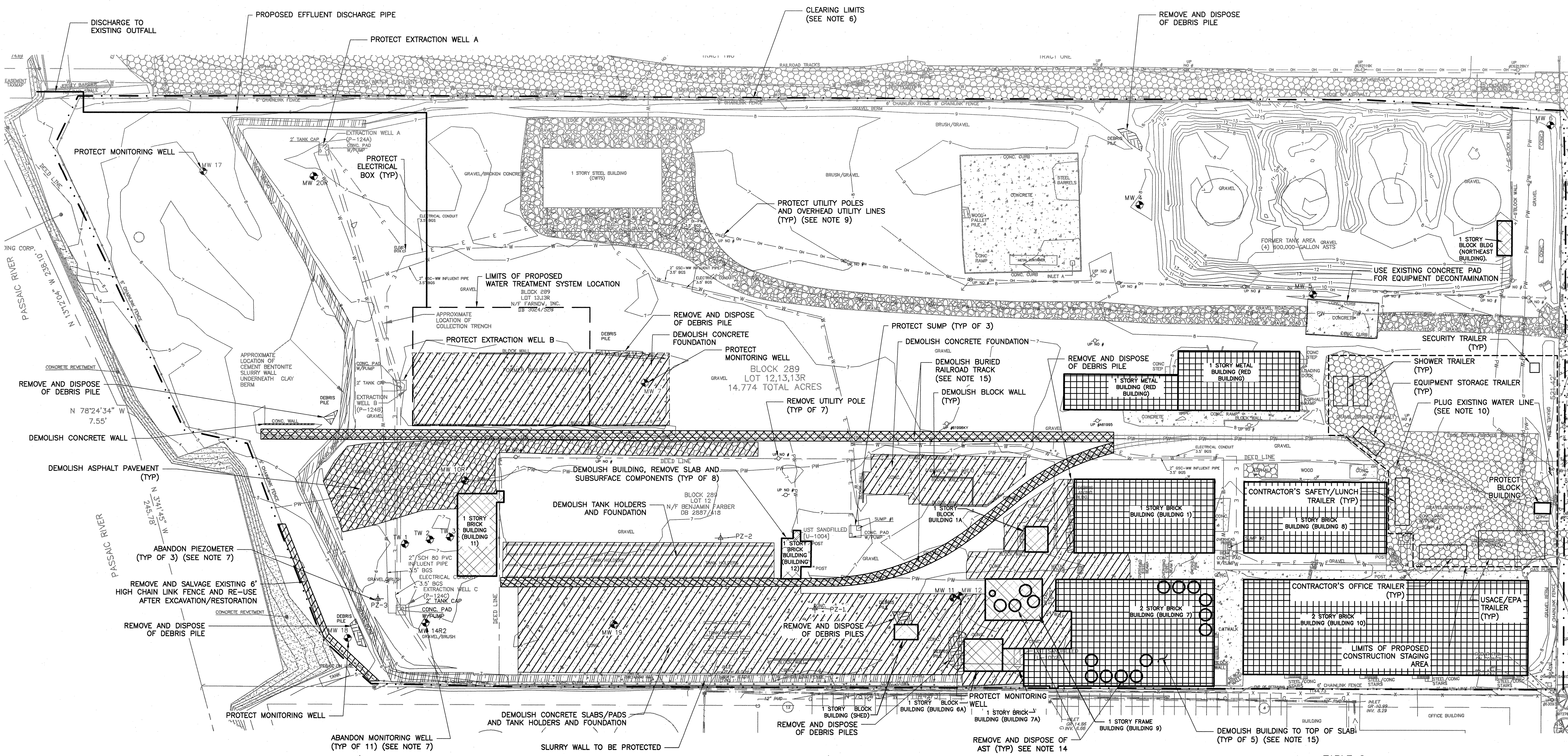
File name: GLSABS01.dwg

SYNCON RESINS SUPERFUND SITE
SOUTH KEARNY, HUDSON COUNTY, NEW JERSEY
REMEDIAL DESIGN

GENERAL NOTES, DRAWING INDEX, LEGEND AND SYMBOLS

SHEET NO.

G-1



NOTES:

1. SITE SURVEY WAS PERFORMED BY KENNON SURVEYING SERVICES, INC., WARREN, NEW JERSEY, DATED MARCH 20, 2008. HORIZONTAL DATUM IS BASED ON NAD 83 AND VERTICAL DATUM IS BASED ON NAVD 88.
2. SITE PREPARATION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTION 02100.
3. ITEMS MARKED FOR REINSTALLATION DURING SITE RESTORATION SHALL BE SALVAGED AND PROTECTED.
4. THE CONTRACTOR SHALL CONSTRUCT THE STAGING AREA AS SHOWN ON THIS SHEET, IN ACCORDANCE WITH THEIR APPROVED TEMPORARY FACILITIES PLAN OR AS DIRECTED BY THE CONTRACTING OFFICER. REFER TO SPECIFICATION SECTION 01500 FOR THE TEMPORARY FACILITY REQUIREMENTS.
5. THE CONTRACTOR SHALL PERFORM SOIL EROSION AND SEDIMENT CONTROL, IN ACCORDANCE WITH SPECIFICATION SECTION 02370 AND THE CONTRACTOR'S APPROVED PLAN.
6. ALL CLEARING AND GRUBBING ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTION 02230. THE CONTRACTOR SHALL CLEAR ALL TREES WITHIN THE CLEARING LIMITS PRIOR TO THE ONSET OF EXCAVATION ACTIVITIES. GRUBBING SHALL BE PERFORMED AS NECESSARY DURING EXCAVATION. CLEARING AND GRUBBING SHALL ONLY BE PERFORMED OUTSIDE THE CLEARING LIMITS AS NECESSARY FOR COMPLETION OF EXCAVATION OPERATIONS, OR WITH CONTRACTING OFFICER APPROVAL.
7. MONITORING WELLS AND PIEZOMETERS LISTED ON THE WELL ABANDONMENT DETAILS TABLE 1 PROVIDED ON THIS CONTRACT DRAWING SHALL BE ABANDONED DURING SITE PREPARATION ACTIVITIES AND/OR EXCAVATION IN ACCORDANCE WITH SPECIFICATION SECTION 02525. MONITORING WELLS MW-7, MW-12, MW-17, AND MW-18 SHALL BE PROTECTED THROUGHOUT THE REMEDIAL CONSTRUCTION.
8. THE CONTRACTOR SHALL PROTECT EXTRACTION WELLS AND SUMPS BY ERECTING SUITABLE BARRIERS, GUARDS AND ENCLOSURES, OR BY OTHER APPROVED MEANS.
9. PRIOR TO EXCAVATION THE CONTRACTOR SHALL PROTECT UTILITY POLES WITH OVERHEAD WIRES WHICH SERVICE THE EXISTING TREATMENT PLANT.
10. EXISTING WATER LINE INDICATED ON THIS CONTRACT DRAWING SHALL BE CAPPED OR PLUGGED DURING SITE PREPARATION, AND THE REMAINDER OF THE WATER LINE AND OTHER UNDERGROUND UTILITIES WITHIN THE EXCAVATION LIMITS SHALL BE REMOVED DURING EXCAVATION OPERATIONS AS INDICATED ON SHEET C-3.
11. THE CONTRACTOR SHALL PROVIDE A TEMPORARY WATER TREATMENT SYSTEM FOR DEWATERING IN ACCORDANCE WITH SPECIFICATION SECTION 13300. TEMPORARY WATER TREATMENT SYSTEM SHALL BE INSTALLED AT THE APPROXIMATE LOCATION SHOWN ON THE PLAN. THE WATER TREATMENT SYSTEM SHALL HAVE A CONTAINMENT AREA CONSTRUCTED TO HOLD A MINIMUM OF 1.1 TIMES THE VOLUME OF THE LARGEST TANK. REFER TO DETAIL ON SHEET CD-1 FOR CONTAINMENT BERM.
12. THE CONTRACTOR SHALL PERFORM BUILDING INSPECTIONS TO DETERMINE THE STRUCTURAL INTEGRITY OF EACH BUILDING TO BE DEMOLISHED, AND COMPLETE ACM AND LEAD BASED PAINT INSPECTIONS OF BUILDINGS THAT ARE CONSIDERED STRUCTURALLY SOUND TO ENTER.
13. APPROXIMATE ACM QUANTITY FOR EACH BUILDING IS LISTED ON TABLE 2 PROVIDED ON THIS CONTRACT DRAWING. PRIOR TO DEMOLITION, THE CONTRACTOR SHALL ABATE AND/OR REMOVE ACM AND OTHER HAZARDOUS MATERIALS (INCLUDING LEAD BASED PAINT, PCB-CONTAINING BALLASTS AND MERCURY-CONTAINING LAMPS) FROM BUILDINGS CONSIDERED STRUCTURALLY SOUND. ACM AND OTHER HAZARDOUS MATERIALS SHALL BE HANDLED AND DISPOSED OF IN ACCORDANCE WITH SPECIFICATION SECTIONS 02080, 02410 AND 02831.
14. THE CONTRACTOR SHALL PERFORM AST INSPECTIONS, AND CHARACTERIZE THE CONTENT, IF FOUND, IN ACCORDANCE WITH SECTION 02410. PRIOR TO DEMOLITION, ALL TANK CONTENT SHALL BE REMOVED, TANK CLEANED, AND CONTENT DISPOSED OFFSITE AT AN APPROVED DISPOSAL FACILITY IN ACCORDANCE WITH CONTRACTORS APPROVED AST REMOVAL PLAN.
15. ALL ABOVE GROUND UTILITIES, RAILROAD SPURS, TANK HOLDERS, BUILDING SLABS, SUBSURFACE COMPONENTS (FOUNDATIONS, FOOTINGS, ETC) SHALL BE DEMOLISHED WITHIN THE EXCAVATION BOUNDARY. THE CONTRACTOR SHALL REMOVE ASTs AND BUILDING CONTENTS AND SHALL DEMOLISH BUILDINGS AS INDICATED IN ACCORDANCE WITH THE CONTRACTOR'S APPROVED BUILDING DEMOLITION PLAN AND SPECIFICATION SECTION 02410, AS FOLLOWS:
    A. BUILDINGS 1A, 6A, 7A, 9, 11, 12, THE NORTHEAST BUILDING, AND THE SHED SHALL BE DEMOLISHED. THE SLABS AND SUBSURFACE COMPONENTS SHALL BE REMOVED.
    B. BUILDINGS 1, 7, 8, 10, AND THE RED BUILDING SHALL BE DEMOLISHED. THE SLABS AND SUBSURFACE COMPONENTS SHALL REMAIN AND BE ADDRESSED ACCORDING TO THE PRE-EXCAVATION INVESTIGATION.
16. FOR BUILDINGS DEMOLISHED WITHOUT A THOROUGH ACM INSPECTION, THE CONTRACTOR SHALL FOLLOW THE NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP) REQUIREMENTS FOR HANDLING DEMOLITION DEBRIS AS FOLLOWS.
    A. INSPECT THE DEBRIS FOR REGULATED ASBESTOS CONTAINING MATERIAL (RACM).
    B. IF ANY AMOUNT OF RACM IS FOUND, THE DISPOSAL OF ASBESTOS CONTAMINATED DEBRIS SHALL BE DONE IN ACCORDANCE WITH THE NESHAP. IF THE RACM CAN BE ISOLATED FROM THE REST OF DEBRIS, THE NON-CONTAMINATED DEBRIS MAY BE DISPOSED OF OR RECYCLED PER SPECIFICATION SECTION 02410.
    C. IF THE THOROUGH INSPECTION PROVES THAT NO RACM IS PRESENT IN THE DEBRIS, AND TABLE 2 ON THIS CONTRACT DRAWING DOES NOT INDICATE SUSPECTED DEBRIS, NO ADDITIONAL REQUIREMENTS APPLY.
    D. THE CONTRACTOR MAY ASSUME, WITHOUT INSPECTING THE DEBRIS, THAT IT IS CONTAMINATED WITH RACM AND DISPOSE OF IT ENTIRELY AS RACM IN ACCORDANCE WITH SPECIFICATION SECTION 02080. THE CONTRACTOR SHALL IMPLEMENT MEASURES TO SALVAGE AND RECYCLE ALL STRUCTURAL STEEL IN EACH BUILDING TO REDUCE DISPOSAL QUANTITY.
17. FOLLOWING BUILDING DEMOLITION, THE CONTRACTOR SHALL PERFORM PRE-EXCAVATION SAMPLING AS INDICATED ON SHEET C-2. DEMOLITION OF SLABS AND SUBSURFACE COMPONENTS PERTAINING TO BUILDINGS 1, 7, 8, 10 AND THE RED BUILDING SHALL BE PERFORMED IF PRE-EXCAVATION SAMPLES EXCEED REMEDIATION GOALS AND AS DIRECTED BY THE CONTRACTING OFFICER.
18. ALL DEMOLITION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTION 02410. ALL DEMOLITION DEBRIS SHALL BE CHARACTERIZED IN ACCORDANCE WITH SPECIFICATION SECTION 01450, DECONTAMINATED, AND RECYCLED OR DISPOSED OF OFF-SITE AS SOLID WASTE IN ACCORDANCE WITH SPECIFICATION SECTION 02120. RAILROAD TIES SHALL BE DISPOSED OF AS HAZARDOUS WASTE IN ACCORDANCE WITH SPECIFICATION SECTION 02120.

TABLE 1

WELL ABANDONMENT DETAILS				
WELL	SCREENED INTERVAL (FEET BGS)	TOTAL DEPTH (FEET BGS)	ABANDON	ABANDON AND REMOVE DURING EXCAVATION
MW-4	3 to 18	18	X	
MW-5	3 to 18	18	X	
MW-6	2 to 12	12	X	
MW-10R	2 to 12	12	X	
MW-11	1 to 11	11	X	
MW-14R2	2 to 10	10		X
MW-19	2 to 10	10		X
MW-20R	2 to 10	10	X	
PZ-1	3 to 8	8	X	
PZ-2	3 to 8	8	X	
PZ-3	3 to 8	8	X	
TW-1	UNKNOWN	UNKNOWN		X
TW-2	UNKNOWN	UNKNOWN		X
TW-3	UNKNOWN	UNKNOWN		X

TABLE 2

SUSPECTED ACM*			
BUILDING	DESCRIPTION	QUANTITY	ACM RESULTS
1	WINDOW CAULKING	UNKNOWN	NO RESULTS
	GROUT IN BETWEEN TERRA COTTA BRICK	UNKNOWN	NO RESULTS
	PIPE INSULATION	UNKNOWN	5-40% CHRYSOTILE
	PERIMETER FLASHING	200 LF	NO RESULTS
	ROOFING MATERIALS	5,000 SF	NO RESULTS
	WALLS	2,200 SF	NO RESULTS
	CEILING PLASTER	UNKNOWN	5% CHRYSOTILE
	JOINT COMPOUND	UNKNOWN	10 - 30% CHRYSOTILE
1A	FILTER PRESS CLOTH FILTERS	180 SF	NO RESULTS
6A	BOILER INSULATION	400 SF	NO RESULTS
	PIPE INSULATION	150 LF	5 - 15% AMOSITE, 1-20% CHRYSOTILE
	GASKETS AND PIPE FITTINGS	UNKNOWN	1 - 30% CHRYSOTILE, 5-20% AMOSITE, 10% ACTINOLITE
7	PIPE INSULATION	1,000 LF	5 - 40% CHRYSOTILE
	TANK INSULATION	500 SF	30% CHRYSOTILE
	BOILER INSULATION (FIRE BRICK)	400 SF	>1% CHRYSOTILE
	GASKETS AND PIPE FITTINGS	UNKNOWN	15 - 80% CHRYSOTILE
	WINDOW CAULKING AND GLAZING	UNKNOWN	NO RESULTS
7A	PIPE INSULATION	UNKNOWN	30 - 50% CHRYSOTILE
	ROOFING MATERIALS	1,287 SF	10 - 20% CHRYSOTILE
8	FLOOR TILE	4,788 SF	5% CHRYSOTILE
	TRANSITE BACKING TO LAB VENT	969 SF	25 - 30% CHRYSOTILE
	ROOFING MATERIALS	8,416 SF	NO RESULTS
9	WINDOW CAULKING	UNKNOWN	NO RESULTS
	TRANSITE SIDING	2,070 SF	20% CHRYSOTILE
	PIPE INSULATION	250 LF	5% CHRYSOTILE, 15% AMOSITE
	ROOFING MATERIALS	2,500 SF	20% CHRYSOTILE
10	PIPE INSULATION	250 LF	NO RESULTS
	PERIMETER FLASHING	650 LF	5 - 20% CHRYSOTILE
	ROOFING MATERIALS	21,009 SF	10 - 20% CHRYSOTILE
11	PERIMETER FLASHING	210 SF	NO RESULTS
	ROOFING MATERIALS	2,250 SF	NO RESULTS
12	PERIMETER FLASHING	160 SF	NO RESULTS
	ROOFING MATERIALS	1,600 SF	15 - 25% CHRYSOTILE
	TRANSITE	606 SF	NO RESULTS
RED BUILDING	ROOFING MATERIALS	2,500 SF	NO RESULTS
SHED	FILTER PRESS CLOTH FILTERS	180 SF	NO RESULTS

* SUSPECTED ACM QUANTITY BASED ON THE BUILDING ASSESSMENT REPORT (LOUIS BERGER GROUP, INC DECEMBER 2006).

US Army Corps of Engineers Kansas City District

KERSHU TAN

Mark	Description	Date	Appr.
1	ADDRESSED USEPA AND USACE COMMENTS	01/2016	MR
2	GENERAL REVISIONS - ADDED BUILDING DEMOLITION	11/2015	MR

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS KANSAS CITY, MISSOURI

CDM Federal Programs Corporation

Designed by: C. WHITTON | Dwn by: G. RODRIGUEZ | Ckd by: M. RAHMANI | Reviewed by: T. MATHEW | Submitted by: K. TAN

Date: JANUARY 2016 | Task Order: 003 | ANSIF | Contract no.: W912DQ-11-D-3004 | Plot date: 1/8/2016 | Plot by: Rodriguez, Gilberto | Scale: 1:1

File name: CSTPL001.dwg

SYNCON RESINS SUPERFUND SITE
SOUTH KEARNY, HUDSON COUNTY, NEW JERSEY
REMEDIAL DESIGN

SITE PREPARATION AND DEMOLITION PLAN

SHEET NO.

C-1

1" = 40'

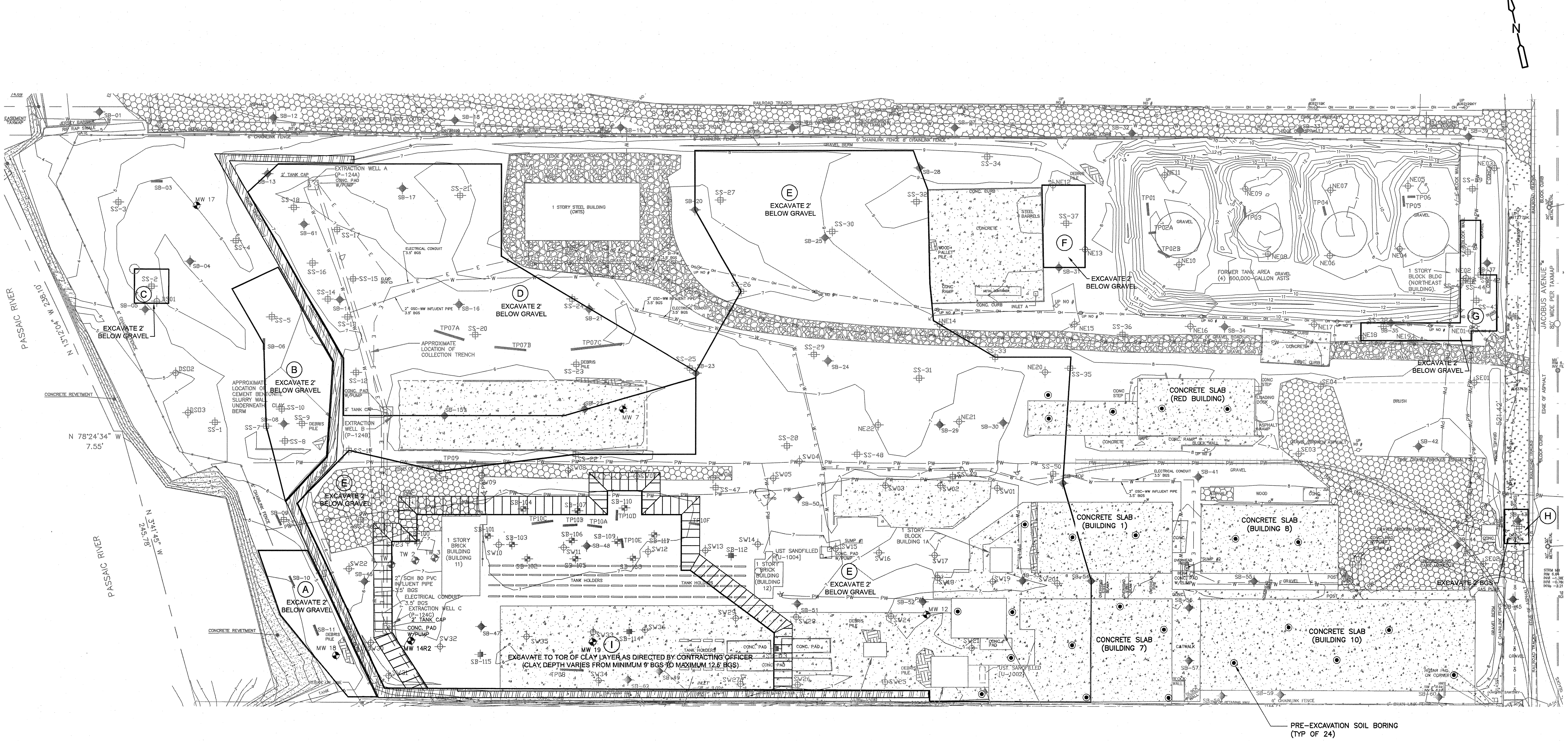
0:\Project_Files_KC_Corps1\Syncon Resins\Remedial Design\CADD\CIVL\ CSTPL001 03/05/12 16:51 larsonej XREFS: SCRSBRDR, CSTWP001

100% DESIGN - REVISION 2

US Army Corps of Engineers
Kansas City District

KERSHU TAN
N.J. PROFESSIONAL ENGINEER NO. 24GE04395100

Mark	Description	Date	Appr.
2	ADDRESSED USEPA AND USACE COMMENTS	01/2016	MR
1	GENERAL REVISIONS - ADDED BUILDING DEMOLITION	11/2015	MR



1" = 40'

20 0 40

NOTES:

1. FOLLOWING BUILDING DEMOLITION, THE CONTRACTOR SHALL COLLECT PRE-EXCAVATION SOIL SAMPLES FROM 24 SOIL BORINGS AS SHOWN ON THIS PLAN. SURFACE AND SUBSURFACE SOIL SAMPLES SHALL BE COLLECTED IN 2-FOOT INTERVALS APPROXIMATELY AS FOLLOWS OR AS DIRECTED BY THE CONTRACTING OFFICER:

INTERVAL	DEPTH (FEET BGS OR BENEATH SLAB
A	0–2 (SURFACE)
B	2–4
C	5–7
D	9–11

2. ALL SAMPLES SHALL BE COLLECTED AND ANALYZED IN ACCORDANCE WITH SPECIFICATIONS SECTION 01450, AND CONTRACTOR'S APPROVED UNIFORM FEDERAL POLICY QUALITY ASSURANCE PROJECT PLAN. SAMPLES SHALL BE ANALYZED BY AN OFFSITE SUBCONTRACT LABORATORY ON A 14-DAY QUICK TURN AROUND TIME.

3. PRE-EXCAVATION SAMPLES WILL BE COMPARED TO EITHER SURFACE OR SUBSURFACE SITE CLEANUP CRITERIA AS DESCRIBED IN SECTION 02111 AND SUBMITTED TO CONTRACTING OFFICER. UPON RECEIPT OF SAMPLE RESULTS, THE CONTRACTING OFFICER WILL REVISE THE EXCAVATION PLAN, AS NECESSARY.

4. BORING LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS TO BE DETERMINED IN FIELD BY CONTRACTOR IN CONSULTATION WITH THE CONTRACTING OFFICER.

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

CDM Federal Programs Corporation

Designed by: A. BOURGEOIS
Dwn by: G. RODRIGUEZ
Ckd by: M. RAHMANI
Reviewed by: T. MATHEW
Submitted by: K. TAN
Date: JANUARY 2016
Task Order: 003
Contract no.: W912DQ-11-D-3004
Plot date: 1/8/2016
Plot by: Rodriguez, Gilberto
Scale: 1:1
ANSIF
File name: CSTPL002.dwg

SYNCON RESINS SUPERFUND SITE
SOUTH KEARNY, HUDSON COUNTY, NEW JERSEY
REMEDIAL DESIGN

PRE-EXCAVATION SAMPLING PLAN

SHEET NO.

C-2

100% DESIGN – REVISION 2

Coordinate Number	Northing	Easting
1	693939.40	598568.60
2	693930.76	598611.20
3	693792.89	598645.34
4	693797.92	598620.50
5	693880.03	598576.68
6	694168.69	598591.25
7	694179.35	598634.37
8	694088.13	598664.97
9	694008.08	598643.33
10	693977.29	598600.44
11	694044.80	598596.94
12	694115.75	598609.01
13	694202.70	598510.98
14	694196.68	598540.37
15	694167.29	598534.35
16	694173.31	598504.96
17	694268.24	598652.59

Coordinate Number	Northing	Easting
18	694229.39	598844.17
19	694150.09	598828.09
20	694016.97	598975.05
21	694011.80	598974.00
22	694001.98	598854.81
23	694040.49	598664.92
24	694089.87	598674.94
25	694249.34	598621.39
26	694207.18	599012.62
27	694169.26	599199.59
28	694133.32	599205.00
29	694019.69	599187.22
30	693977.54	599233.92
31	693964.41	599298.65
32	693857.49	599269.93
33	693768.48	599277.68
34	693664.44	599256.13

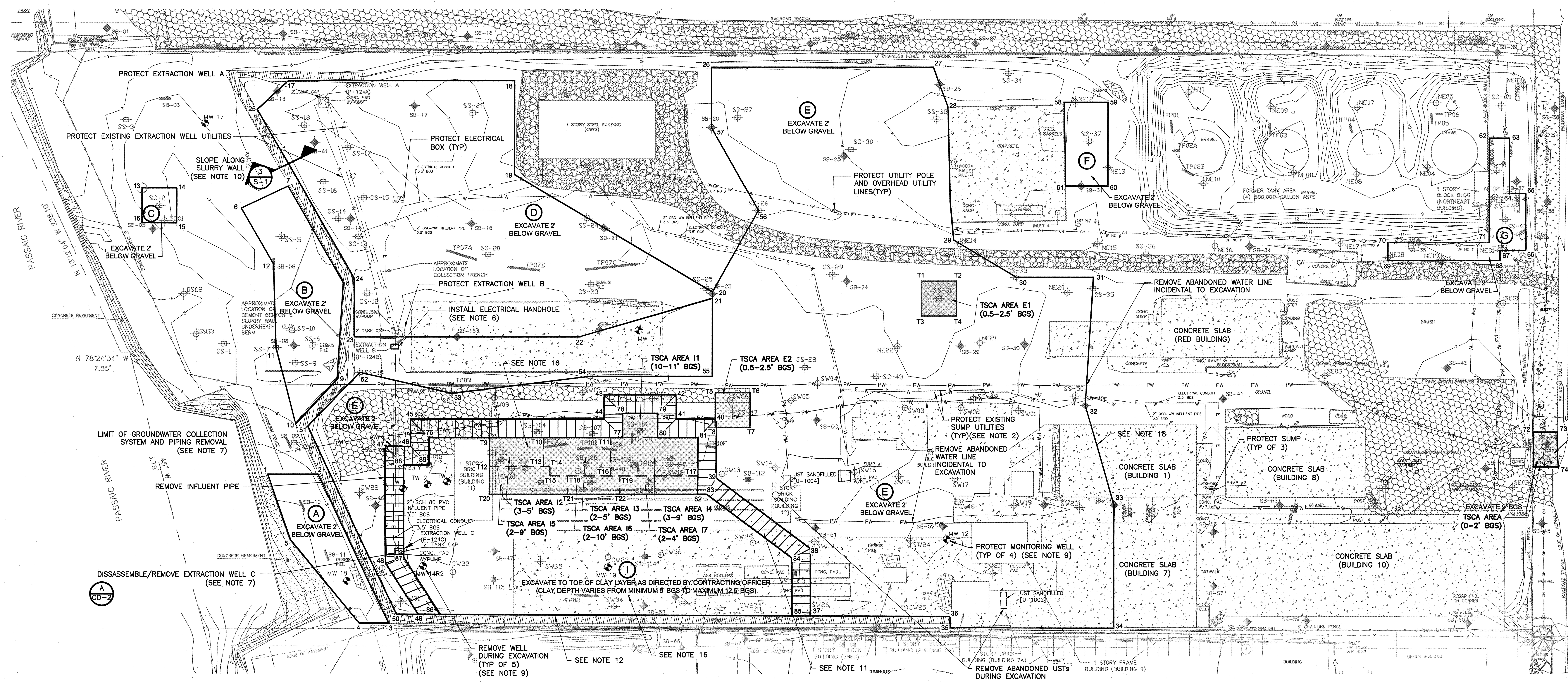
Coordinate Number	Northing	Easting
35	693692.38	599118.35
36	693702.23	599120.40
37	693726.67	599002.80
38	693783.46	599014.40
39	693859.27	598946.78
40	693909.06	598956.98
41	693915.97	598922.89
42	693936.46	598927.04
43	693948.89	598866.37
44	693928.29	598862.15
45	693961.43	598698.74
46	693938.30	598694.05
47	693942.73	598672.25
48	693844.16	598652.96
49	693795.18	598672.03
50	693799.04	598653.44
51	693973.09	598610.45

Coordinate Number	Northing	Easting
52	694009.58	598663.62
53	693976.00	598738.00
54	693966.81	598857.75
55	693945.97	598960.65
56	694078.18	599027.82
57	694156.25	599002.29
58	694117.22	599303.86
59	694109.74	599340.74
60	694039.02	599326.40
61	694046.21	599290.91
62	694014.40	599656.35
63	694010.92	599673.52
64	693964.00	599664.00
65	693961.16	599678.00
66	693912.99	599668.23
67	693917.43	599646.32
68	693909.11	599644.63

Coordinate Number	Northing	Easting
69	693928.25	599550.28
70	693943.53	599553.37
71	693926.27	599638.47
72	693758.26	599644.35
73	693754.11	599664.82
74	693724.54	599659.70
75	693728.86	599638.37
76	693942.57	598711.24
77	693909.44	598874.63
78	693929.92	598878.82
79	693923.96	598908.18
80	693903.47	598904.03
81	693896.59	598938.09
82	693848.83	598928.31
83	693847.24	598936.08
84	693778.80	598997.12
85	693729.88	598987.13

Coordinate Number	Northing	Easting
86	693791.32	598690.70
87	693845.64	598669.55
88	693923.84	598684.86
89	693919.44	598706.55
T1	693990.46	599153.27
T2	693984.50	599182.67
T3	693955.10	599176.71
T4	693961.06	599147.31
T5	693931.53	598960.46
T6	693925.57	598989.86
T7	693896.17	598983.90
T8	693902.13	598954.50
T9	693932.23	598762.23
T10	693922.92	598808.23
T11	693911.49	598864.59
T12	693907.73	598757.26
T13	693898.40	598803.26

Coordinate Number	Northing	Easting
T14	693897.30	598808.71
T15	693889.45	598807.12
T16	693879.13	598858.03
T17	693864.24	598931.46
T18	693886.47	598821.82
T19	693877.53	598865.92
T20	693884.45	598752.54
T21	693871.04	598818.69
T22	693862.10	598862.80



NOTES:

1. A GEOPHYSICAL SURVEY AND UTILITY MARKOUTS SHALL BE COMPLETED PRIOR TO EXCAVATION. THE CONTRACTOR SHALL VERIFY LOCATIONS OF TWO ABANDONED SAND FILLED UNDERGROUND STORAGE TANKS USING TEST PITS PRIOR TO THEIR REMOVAL. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL UNDERGROUND STORAGE TANKS AND ASSOCIATED PIPING IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS.
2. THE CONTRACTOR SHALL PROTECT GROUNDWATER COLLECTION SUMPS AND EXTRACTION WELLS AND ASSOCIATED CONCRETE PADS IDENTIFIED ON THE CONTRACT DRAWINGS FROM DAMAGE DURING ALL CONSTRUCTION ACTIVITIES. UNDERGROUND ELECTRICAL CONDUITS AND WATER LINES SHALL BE PROTECTED DURING EXCAVATION AND BACKFILL OPERATIONS, EXCEPT AS INDICATED ON THIS CONTRACT DRAWING.
3. ALL SURFACE GRAVEL SHALL BE SEGREGATED, WASHED, AND STOCKPILED DURING EXCAVATION OPERATIONS FOR REUSE DURING SITE RESTORATION. EXISTING GRAVEL COVER THICKNESS RANGES FROM APPROXIMATELY 0.5–3 FEET. EXCAVATION AREA I SHALL INITIALLY BE BACKFILLED TO A THICKNESS OF 2.5 FEET USING THE STOCKPILED GRAVEL. SUBSEQUENTLY, THE EXCAVATION SHALL BE BACKFILLED WITH COMMON BACKFILL.
4. THE CONTRACTOR SHALL IMPLEMENT APPROPRIATE DEWATERING MEASURES AND CONSTRUCT A TEMPORARY WATER TREATMENT SYSTEM PRIOR TO EXCAVATION OF AREA I IN ACCORDANCE WITH SPECIFICATION SECTIONS 02111 AND 13300, AND THE CONTRACTOR'S APPROVED PLAN. TREATED WATER SHALL BE DISCHARGED TO THE PASSAIC RIVER AND SHALL MEET THE NJPDES DISCHARGE TO SURFACE WATER EFFLUENT CRITERIA. PRIOR TO INSTALLATION OF THE TEMPORARY WATER TREATMENT SYSTEM, IF GROUNDWATER IS ENCOUNTERED DURING EXCAVATION, IT SHALL BE EITHER CONTAINERIZED, TREATED AT THE EXISTING ONSITE TREATMENT SYSTEM, OR DISCHARGED TO AREA I, AS DIRECTED BY THE CONTRACTING OFFICER.
5. THE STOCKPILE AREA SHALL BE CONSTRUCTED IN AREA E IN ACCORDANCE WITH DETAIL B ON SHEET CD–1, OR THE CONTRACTOR'S APPROVED PLAN, AND SHALL BE MADE FULLY OPERATIONAL PRIOR TO EXCAVATION OF AREA I.
6. PRIOR TO THE EXCAVATION ALONG THE WEST SLOPE OF AREA I, A HAND–HOLE SHALL BE INSTALLED FOR DISCONNECTION OF ELECTRICAL AND CONTROL SERVICE IN ACCORDANCE WITH SHEET E–4. THE EXTRACTION WELL PUMP 124C SHALL BE LOCKED OUT AND TAGGED OUT, AND THE EXISTING GROUNDWATER TREATMENT SYSTEM SHALL BE SHUT DOWN TEMPORARILY DURING CONSTRUCTION.
7. PRIOR TO THE EXCAVATION ALONG THE WEST SLOPE OF AREA I, A TEST PIT SHALL BE INSTALLED AT THE EXCAVATION LIMIT OF AREA I TO CUT/CAP THE EXISTING INFLUENT PIPE. EXTRACTION WELL C AND THE ASSOCIATED VALVE BOX SHALL BE DISASSEMBLED AND REMOVED IN ACCORDANCE WITH THE INSTRUCTIONS ON SHEET CD–2; THE ASSOCIATED CONTROL PANEL SHALL BE DISCONNECTED AND REMOVED IN ACCORDANCE WITH THE INSTRUCTIONS ON SHEET E–4. WELL PUMPS, VALVES, LEVEL TRANSMITTERS, GAUGES, AND EXTRACTION WELL C AND ITS ASSOCIATED VALVE BOX AND CONTROL PANEL SHALL BE KEPT INTACT FOR REINSTALLATION AFTER COMPLETION OF EXCAVATION ACTIVITIES. THE GROUNDWATER COLLECTION TRENCH AND WATER AND ELECTRICAL CONDUITS WITHIN THE SLOPED EXCAVATION AREA SHALL BE REMOVED AS NECESSARY CONCURRENT WITH EXCAVATION OPERATIONS.
8. THE CONTRACTOR SHALL PERFORM REMEDIAL EXCAVATION TO THE DEPTH SHOWN ON THIS CONTRACT DRAWING IN ACCORDANCE WITH SPECIFICATION SECTION 02111. THE CONTRACTOR SHALL FOLLOW THE RECOMMENDED CONSTRUCTION SEQUENCE SHOWN ON SHEET G–1 OR AS APPROVED BY THE CONTRACTING OFFICER.
9. MONITORING WELLS AND PIEZOMETERS SHALL BE ABANDONED DURING THE REMEDIAL EXCAVATION AS INDICATED ON THE WELL ABANDONMENT DETAILS TABLE PROVIDED ON SHEET C–1 IN ACCORDANCE WITH SPECIFICATION SECTION 02525, EXCEPT MW–7, MW–12, MW–17 AND MW–18. MONITORING WELLS MW–7, MW–12, MW–17 AND MW–18 SHALL BE PROTECTED THROUGHOUT THE REMEDIAL CONSTRUCTION.
10. THE CONTRACTOR SHALL INSTALL A SLOPE AS SHOWN ON SHEET S–1 TO MAINTAIN THE STRUCTURAL INTEGRITY OF THE SLURRY WALL WHEN PERFORMING SHALLOW EXCAVATION (UP TO TWO FEET BELOW GRAVEL) IN THE IMMEDIATE VICINITY OF THE SLURRY WALL. IF SECONDARY EXCAVATION OF THE SLOPED SOIL ABUTTING THE SLURRY WALL IS REQUIRED, THE CONTRACTOR SHALL PERFORM EXCAVATION ALONG THE SLURRY WALL USING A TRENCH BOX OR SLIDE RAIL SYSTEM, AS APPROVED BY THE CONTRACTING OFFICER. NO FURTHER SECONDARY EXCAVATION SHALL BE PERFORMED UPON REACHING THE SLURRY WALL.
11. THE CONTRACTOR SHALL CONTINUALLY INSPECT, EVALUATE, AND MAINTAIN THE EXCAVATION SLOPE TO PREVENT CRACKS, BULGES, SLOUGHS, OR FAILURES. A MINIMUM EXCAVATION SLOPE RATIO OF 2H:1V SHALL BE MAINTAINED IN ACCORDANCE WITH NJDEP REQUIREMENTS FOR EXCAVATION IN FLOOD HAZARD AREAS. IF THE EXCAVATION IS TO REMAIN OPEN FOR AN EXTENDED PERIOD OF TIME, THE CONTRACTOR SHALL STABILIZE THE SLOPE BY BACKFILLING TO 3H:1V OR FLATTER.
12. SHEET PILING SHALL BE INSTALLED AND LEFT IN PLACE ALONG THE SLURRY WALL IN EXCAVATION AREA I IN ACCORDANCE WITH SPECIFICATION SECTIONS 02111 AND 02250 AND SHEET S–1.
13. FOLLOWING EXCAVATION, THE CONTRACTOR SHALL INSPECT EXCAVATION BOTTOMS AND SIDEWALLS FOR CONTAMINATION USING VISUAL AND OLFACTORY OBSERVATIONS, AND FIELD SCREENING WITH A PHOTOIONIZATION DETECTOR. THE CONTRACTOR SHALL PERFORM EXCAVATION OF CONTAMINATED MATERIALS AS DIRECTED BY THE CONTRACTING OFFICER BASED ON THE INSPECTION OBSERVATIONS. SUBSEQUENTLY, THE CONTRACTOR SHALL COLLECT POST–EXCAVATION SAMPLES IN ACCORDANCE WITH SPECIFICATION SECTION 02111 AND SHEET C–4.
14. BACKFILL OPERATIONS SHALL TAKE PLACE SIMULTANEOUSLY WITH EXCAVATION ACTIVITIES TO LIMIT THE OPEN EXCAVATION AREA IN AREA I AS INDICATED ON SHEET C–6.
15. SECONDARY EXCAVATION SHALL BE CONDUCTED IN ACCORDANCE WITH SECTION 02111 AND AS DIRECTED BY THE CONTRACTING OFFICER.
16. TO THE EXTENT POSSIBLE, THE CONTRACTOR SHALL PERFORM DIRECT LOADING OF EXCAVATED SOIL FOR OFF–SITE TRANSPORTATION AND DISPOSAL FROM ALL AREAS, EXCEPT AREA I. TSCA WASTE FROM AREAS E, H AND I SHALL BE SEGREGATED TO THE DEPTHS INDICATED ON THIS PLAN, CHARACTERIZED IF NECESSARY, AND SENT TO AN APPROVED TSCA PERMITTED LANDFILL FOR TREATMENT AND/OR DISPOSAL. BASED ON THE EXISTING DATA, SOME OF THE CONTAMINATED SOIL FROM AREA I MAY BE CLASSIFIED AS HAZARDOUS WASTE (CHARACTERISTIC WASTE). CONTAMINATED SOIL FROM AREA I SHALL BE STOCKPILED AND SAMPLED FOR WASTE CHARACTERIZATION. BASED ON THE WASTE CHARACTERIZATION RESULTS, CONTAMINATED SOIL FROM AREA I SHALL BE SENT TO AN APPROVED SUBTITLE D LANDFILL FOR DISPOSAL OR RCRA HAZARDOUS PERMITTED LANDFILL FOR TREATMENT AND/OR DISPOSAL. ALL WASTE CHARACTERIZATION SAMPLING SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTION 01450 AND TRANSPORTATION AND DISPOSAL IN ACCORDANCE WITH SPECIFICATION SECTION 02120, AND CONTRACTOR'S APPROVED PLANS.
17. SURFACE WATER SHALL BE DIRECTED AWAY FROM THE EXCAVATION AND CONSTRUCTION AREAS TO PREVENT EROSION, TO PREVENT SURFACE WATER RUNOFF FROM BECOMING CONTAMINATED BY ACCUMULATING IN EXCAVATIONS, AND TO PREVENT ADDITIONAL PUMPING REQUIRED TO REMOVE THE WATER FROM THE EXCAVATIONS. DURING EXCAVATION OF AREAS A–D, RUNOFF THAT ENTERS EXCAVATIONS AND ACCUMULATED WATER FROM PRECIPITATION EVENTS SHALL BE CONTAINERIZED, TREATED AT THE EXISTING ONSITE TREATMENT SYSTEM, OR DISCHARGED TO AREA I, AS DIRECTED BY THE CONTRACTING OFFICER. ONCE INSTALLED, THE TEMPORARY WATER TREATMENT SYSTEM SHALL BE USED TO TREAT RUNOFF AND ACCUMULATED WATER FROM PRECIPITATION EVENTS.
18. EXCAVATION CUT LINE WITHIN THE BUILDING FOOTPRINT WILL BE REVISED BASED ON PRE–EXCAVATION SAMPLE RESULTS.

LEGEND

- (A) EXCAVATION AREA
- LIMITS OF TSCA WASTE
- EXCAVATION SLOPE 2H:1V

1" = 40'
20 0 40

US Army Corps of Engineers
Kansas City District

KERSHU TAN
N.J. PROFESSIONAL ENGINEER NO. 24GE04395200

Mark	Description	Date	Appr.
2	ADDRESSED USEPA AND USACE COMMENTS	01/2016	MR
1	GENERAL REVISIONS - ADDED BUILDING DEMOLITION	11/2015	MR

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

CDM Federal Programs Corporation

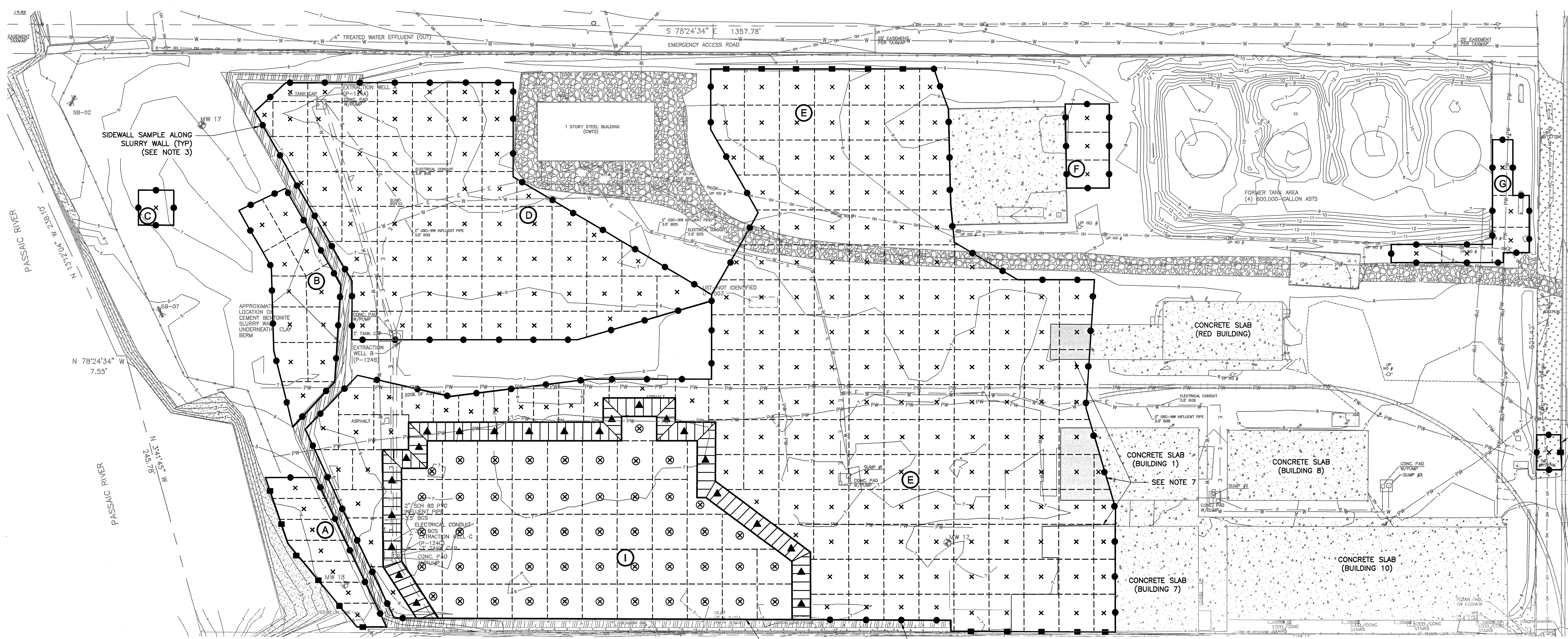
Designed by: A. BOURGEOIS
Dwn by: G. RODRIGUEZ
Ckd by: M. RAHMAN
Reviewed by: T. MATHEW
Submitted by: K. TAN
Date: JANUARY 2016
ANSIF
Task Order: 003
Contract no.: W912DQ-11-D-3004
Plot date: 1/8/2016
Plot by: Rodriguez, Gilberto
Scale: 1:1
File name: CSTPL003.dwg

SYNCON RESINS SUPERFUND SITE
SOUTH KEARNY, HUDSON COUNTY, NEW JERSEY
REMEDIAL DESIGN

EXCAVATION PLAN

SHEET NO.
C-3

100% DESIGN – REVISION 2



SEE NOTE 3

NO POST EXCAVATION SAMPLING OR SECONDARY EXCAVATION ALONG SLURRY WALL IN AREA I (TYP)

LEGEND

Symbol	Description
×	POST-EXCAVATION BOTTOM SAMPLE PCBs (CONFIRMATION SAMPLE, MAY TRIGGER SECONDARY EXCAVATION)
⊗	POST-EXCAVATION BOTTOM SAMPLE PCBs (DOCUMENTATION SAMPLE, NO SECONDARY EXCAVATION)
●	POST-EXCAVATION SIDEWALL SAMPLE SURFACE COCs (CONFIRMATION SAMPLE, MAY TRIGGER SECONDARY EXCAVATION)
■	POST-EXCAVATION SIDEWALL SAMPLE SURFACE COCs (DOCUMENTATION SAMPLE, NO SECONDARY EXCAVATION)
▲	POST-EXCAVATION SIDEWALL SAMPLE PCBs (CONFIRMATION SAMPLE, MAY TRIGGER SECONDARY EXCAVATION)
dashed square	POST EXCAVATION SAMPLE GRID (APPROXIMATELY 900 SF)
Ⓐ	EXCAVATION AREA

NOTES:

1. THE NJDEP VERIFICATION REQUIREMENTS FOR CLOSURE SAMPLES (POST-EXCAVATION SAMPLES) ARE ONE BOTTOM SAMPLE FOR EVERY 900 SQUARE FEET OF EXPOSED EXCAVATION BOTTOM OR FLOOR AND ONE SIDEWALL SAMPLE FOR EVERY 30 LINEAR FEET OF EXPOSED EXCAVATION SIDEWALL. SIDEWALLS INCLUDE THE OUTER EXCAVATION PERIMETER AS WELL AS INTERIOR SIDEWALLS BETWEEN ADJOINING EXCAVATIONS. SLOPED SIDEWALLS SHOWN ON THE PLAN ARE MEASURED AT THE TOP OF THE SLOPE FOR THE SIDEWALL SAMPLE CALCULATIONS.

2. THE CONTRACTOR SHALL COLLECT POST-EXCAVATION SAMPLES AS SHOWN ON THE PLAN. THIS WILL INCLUDE CONFIRMATION SAMPLES THAT MAY TRIGGER SECONDARY EXCAVATION AND DOCUMENTATION SAMPLES ALONG LIMITS WHERE NO SECONDARY EXCAVATION IS ALLOWED. DIFFERENT SYMBOLS HAVE BEEN SHOWN TO DISTINGUISH BETWEEN CONFIRMATION AND DOCUMENTATION SAMPLES. ALL POST-EXCAVATION SAMPLES SHALL BE ANALYZED IN ACCORDANCE WITH SPECIFICATION SECTION 01450.

3. POST-EXCAVATION SIDEWALL SAMPLES SHOWN ALONG THE SLURRY WALL SHALL BE COLLECTED FROM THE SLOPE INSTALLED DURING PRIMARY EXCAVATION OPERATIONS AS SHOWN IN SECTION 3 ON SHEET S-1. IF SECONDARY EXCAVATION OF SOIL ABUTTING THE SLURRY WALL IS REQUIRED, NO FURTHER POST-EXCAVATION SAMPLING SHALL BE PERFORMED UPON REACHING THE SLURRY WALL.

4. POST-EXCAVATION SAMPLES WILL BE COMPARED TO EITHER SURFACE OR SUBSURFACE SITE CLEANUP CRITERIA AS DESCRIBED IN SPECIFICATION SECTION 02111.

5. SECONDARY EXCAVATION BASED ON THE POST-EXCAVATION SAMPLE RESULTS WILL REQUIRE CONTRACTING OFFICER APPROVAL AND WILL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTION 02111. EXCAVATION AREAS HAVE BEEN FURTHER SUBDIVIDED INTO 900 SQUARE FEET GRIDS TO FACILITATE SECONDARY EXCAVATION AND POST-EXCAVATION SAMPLING, IF REQUIRED.

6. IF EXCAVATION LIMIT IS CHANGED BEYOND THOSE SHOWN ON THIS PLAN, THE CONTRACTOR IS RESPONSIBLE FOR COLLECTING ADDITIONAL CLOSURE SAMPLES TO MEET THE NJDEP VERIFICATION REQUIREMENTS, AS DESCRIBED ON THIS PLAN AND IN SECTION 02111.

7. POST-EXCAVATION SAMPLING REQUIREMENT WITHIN THE SHADED AREA WILL BE REVISED BASED ON PRE-EXCAVATION SAMPLE RESULTS.

1" = 40'

20 0 40

US Army Corps of Engineers Kansas City District

KERSHU TAN

N.J. PROFESSIONAL ENGINEER NO. 24GE04395200

Mark	Description	Date	Appr.
2	ADDRESSED USEPA AND USACE COMMENTS	01/2016	MR
1	GENERAL REVISIONS - ADDED BUILDING DEMOLITION	11/2015	MR

Designed by: A. BOURGEOIS
Dwn by: G. RODRIGUEZ
Ckd by: M. RAHMANI
Reviewed by: T. MATHEW
Submitted by: K. TAN
Date: JANUARY 2016
ANSIF
Task Order: 003
Contract no.: W912DQ-11-D-3004
Plot date: 1/8/2016
Plot by: Rodriguez, Gilberto
Scale: 1:1

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS KANSAS CITY, MISSOURI

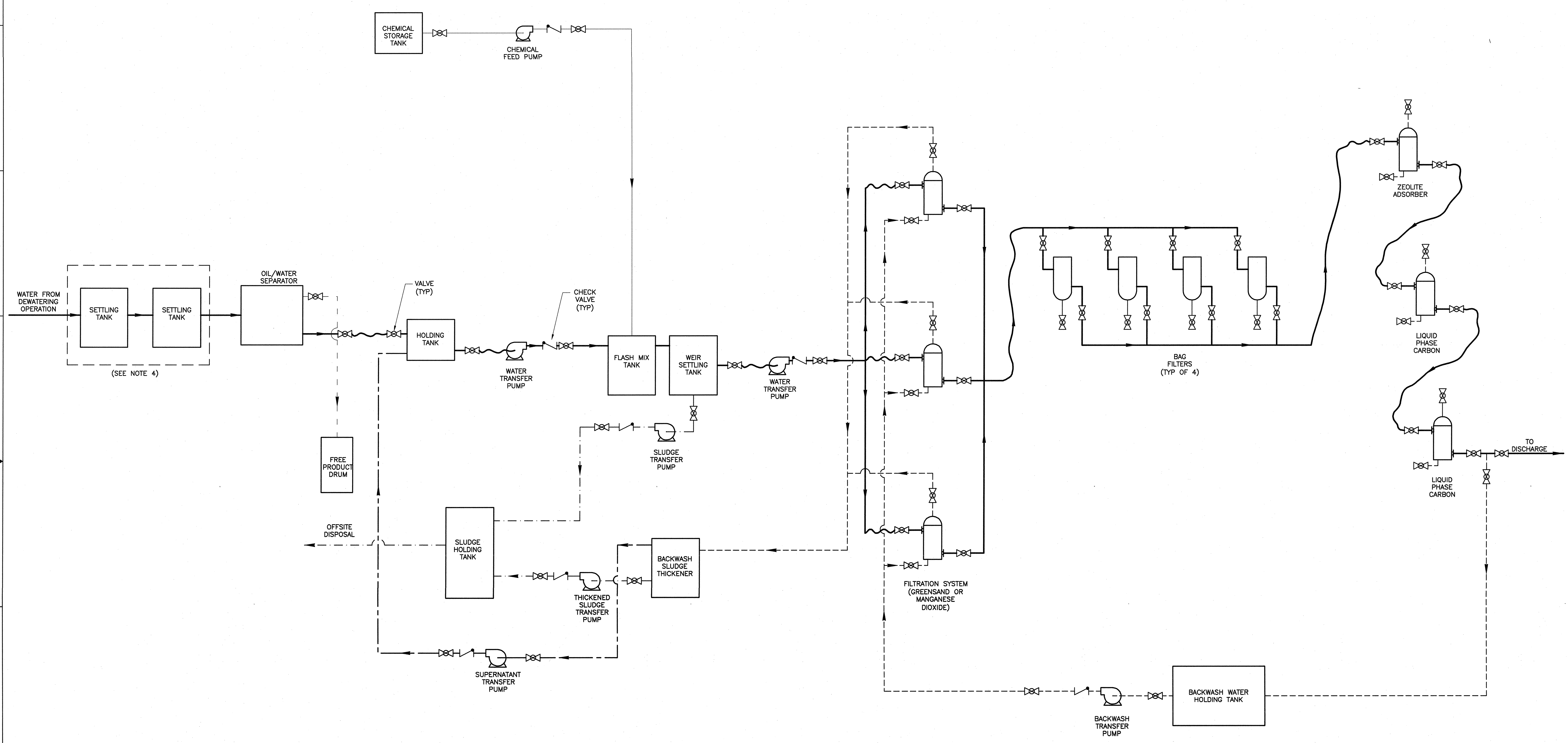
CDM Federal Programs Corporation

File name: CSTPL004.dwg

SYNCON RESINS SUPERFUND SITE
SOUTH KEARNY, HUDSON COUNTY, NEW JERSEY
REMEDIAL DESIGN

POST-EXCAVATION SAMPLING PLAN

SHEET NO.
C-4



LEGEND

- MAIN PROCESS LINE
- CHEMICAL FEED LINE
- SLUDGE TRANSFER LINE
- BACKWASH LINE
- SUPERNATANT TRANSFER LINE
- PRODUCT TRANSFER LINE
- VALVE
- CHECK VALVE

NOTES:

1. THE CONTRACTOR SHALL PROVIDE A TEMPORARY WATER TREATMENT SYSTEM FOR DEWATERING IN ACCORDANCE WITH SPECIFICATION SECTION 13300. WATER SHALL BE TREATED TO MEET THE NJPDES DISCHARGE TO SURFACE WATER PERMIT EQUIVALENCY CRITERIA. TREATED WATER SHALL BE DISCHARGED TO THE PASSAIC RIVER.
2. THIS DRAWING PRESENTS A RECOMMENDED TEMPORARY WATER TREATMENT SYSTEM PROCESS FLOW DIAGRAM BASED ON EXISTING DATA. THE CONTRACTOR SHALL DESIGN AND SUBMIT THE TEMPORARY WATER TREATMENT SYSTEM PLAN FOR APPROVAL IN ACCORDANCE WITH SPECIFICATION SECTION 13300.
3. THE TEMPORARY WATER TREATMENT SYSTEM SHALL BE CONSTRUCTED IN A CONTAINMENT AREA AT THE LOCATION SHOWN ON SHEET C–1 OR AS APPROVED BY CONTRACTING OFFICER. CONSTRUCT BERM AROUND CONTAINMENT AREA AS SHOWN IN DETAIL A, ON SHEET CD–1.
4. NUMBER OF SETTLING TANKS TO BE DETERMINED BASED ON THE DEWATERING METHOD SELECTED BY THE CONTRACTOR.
5. CONTRACTOR SHALL PROTECT THE TEMPORARY WATER TREATMENT SYSTEM FROM FREEZING DURING WINTER WEATHER.

US Army Corps of Engineers Kansas City District

KERSHU TAN

Mark	Description	Date	Appr.
2	ADDRESSED USEPA AND USACE COMMENTS	01/2016	MR
1	GENERAL REVISIONS - ADDED BUILDING DEMOLITION	11/2015	MR

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

CDM Federal Programs Corporation

Designed by: G. CHEN
Dwn by: G. RODRIGUEZ
Ckd by: M. RAHMANI
Reviewed by: T. MATHEW
Submitted by: K. TAN
Date: JANUARY 2016
Task Order: 003
Contract no.: W912DQ-11-D-3004
Plot date: 1/8/2016
Plot by: Rodriguez, Gilberto
Scale: 1:1
ANSIF
File name: CPID0005.dwg

SYNCON RESINS SUPERFUND SITE
SOUTH KEARNY, HUDSON COUNTY, NEW JERSEY
REMEDIAL DESIGN

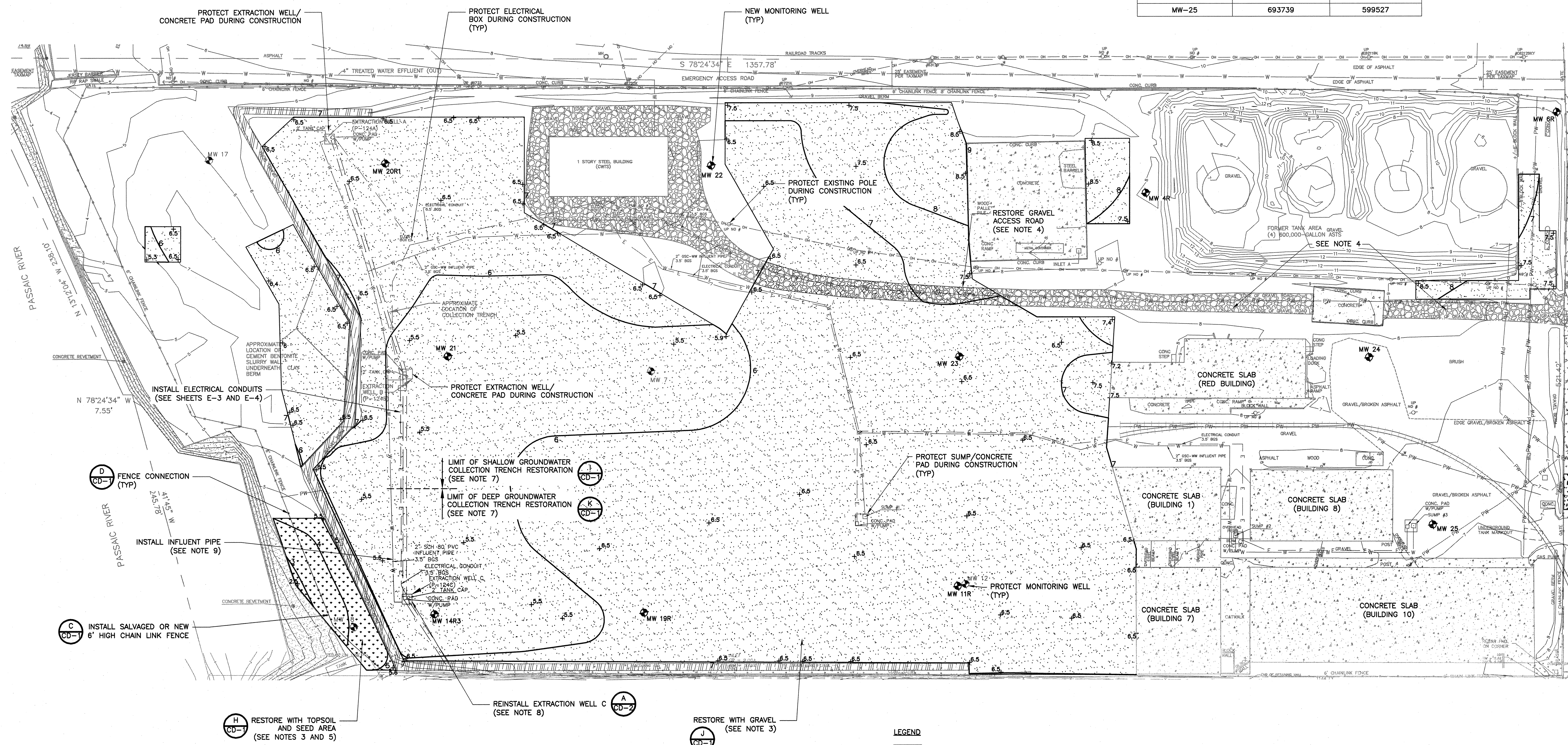
WATER TREATMENT SYSTEM PROCESS FLOW DIAGRAM

SHEET NO.
C-5

C:\cdmxm\larsonej\d0813125\ CPID0004 06/07/12 15:01 larsonej XREFS: SCRSBRDR

100% DESIGN – REVISION 2

NEW SITE-WIDE MONITORING WELL COORDINATES		
WELL No.	APPROXIMATE NORTH	APPROXIMATE EAST
MW-04R	694062	599345
MW-06R	694060	599698
MW-11R	693768	599124
MW-14R3	693833	598686
MW-19R	693799	598860
MW-20R1	694214	598721
MW-21	694044	598740
MW-22	694158	598990
MW-23	693958	599164
MW-24	693888	599502
MW-25	693739	599527



NOTES:

1. THE PLAN SHOWS FINISHED, COMPACTED SUBGRADE CONTOUR AND SPOT ELEVATIONS. FINAL SURFACE GRADES ARE 6-INCHES ABOVE SUBGRADE ELEVATIONS SHOWN. AREAS OUTSIDE THE EXCAVATION LIMITS SHOWN TO HAVE GRAVEL COVER SHALL BE CUT AND FILLED TO OBTAIN THE SUBGRADE ELEVATIONS AS SHOWN.
2. CLEAN FILL MATERIAL SHALL BE BACKFILLED TO THE COMPACTED SUBGRADE CONTOUR ELEVATIONS SHOWN ON THIS DRAWING. BACKFILLING AND COMPACTION SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTION 02201.
3. ALL COMPACTED SUBGRADE CONTOURS AS SHOWN ON THE PLAN SHALL BE IN PLACE, REVIEWED, AND APPROVED BY THE CONTRACTING OFFICER PRIOR TO INSTALLATION OF 6-INCHES OF SALVAGED 1-1/2" GRAVEL OR TOPSOIL. FINISHED GRADE OF THE SITE SHALL BE AN EVEN, SMOOTH, CONTINUOUS SURFACE. THE CONTRACTOR SHALL RESTORE THE SITE TO THE LIMIT SHOWN ON THE CONTRACT DRAWING OR AS APPROVED BY THE CONTRACTING OFFICER. RESTORATION AT SITE OF BUILDINGS 1, 7, 8, 10 AND THE RED BUILDING SHALL BE PERFORMED ONLY IN AREAS WHERE CONCRETE SLAB DEMOLITION AND SOIL EXCAVATION ARE REQUIRED. IF THE EXCAVATION BOUNDARY ON THE EAST SIDE OF EXCAVATION AREA E IS REVISED, THE RESTORATION BOUNDARY SHALL BE REVISED IN THE SAME MANNER.
4. EXCAVATED SECTIONS OF THE GRAVEL ACCESS ROAD SHALL BE RESTORED WITH 12-INCHES OF 1-1/2" GRAVEL PLACED OVER A GEOTEXTILE FILTER FABRIC. GRAVEL ACCESS ROAD OUTSIDE EXCAVATION LIMITS SHALL BE RESTORED AS DIRECTED BY THE CONTRACTING OFFICER.
5. EXCAVATED AREAS WITHIN 50 FEET OF THE PASSAIC RIVER (THE RIPARIAN ZONE), AND BETWEEN THE PERIMETER FENCE AND RAILROAD TRACKS ALONG JACOBUS AVENUE SHALL BE RESTORED WITH COMMON BACKFILL FOLLOWED BY TOPSOIL WITH A MINIMUM THICKNESS OF 6 INCHES. SEEDING OF TOPSOIL SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTION 02921.
6. A VIBRATORY COMPACTOR SHALL NOT BE USED IN THE IMMEDIATE VICINITY OF THE SLURRY WALL AND THE EXISTING TREATMENT BUILDING, OR NEAR OTHER ONSITE OR NEIGHBORING STRUCTURES.
7. DEMOLISHED SECTIONS OF THE GROUNDWATER COLLECTION TRENCH SHALL BE RESTORED IN SHALLOW AND DEEP EXCAVATION AREAS AS SHOWN ON SHEET CD-1 IN DETAILS I AND K, RESPECTIVELY. MEANS AND METHOD FOR INSTALLATION SHALL BE DETERMINED BY THE CONTRACTOR, AS APPROVED BY THE CONTRACTING OFFICER.
8. EXTRACTION WELL C AND ITS ASSOCIATED VALVE BOX AND CONTROL PANEL SHALL BE REINSTALLED IN ACCORDANCE WITH THE INSTRUCTIONS ON SHEET CD-2.
9. INSTALL A 2-INCH SCHEDULE 80 PVC INFLUENT PIPE AT THE LOCATION SHOWN ON THIS DRAWING, AND CONNECT TO THE EXISTING INFLUENT PIPE AND EXTRACTION WELL C. PRESSURE TEST THE NEWLY INSTALLED SECTION OF INFLUENT PIPE IN ACCORDANCE WITH ASTM STANDARD F2164 PRIOR TO OPERATION OF EXTRACTION WELL C.
10. FENCING REMOVED DURING THE REMEDIAL CONSTRUCTION SHALL BE REPLACED.
11. PROTECT EXTRACTION WELLS AND REMAINING MONITORING WELLS DURING BACKFILL OPERATIONS.
12. NEW MONITORING WELLS SHALL BE INSTALLED IN ACCORDANCE WITH SPECIFICATION SECTION 02525.
13. ALL AREAS DISTURBED OUTSIDE THE LIMIT OF WORK SHALL BE REPAIRED IN A MANNER APPROVED BY THE CONTRACTING OFFICER.
14. THE CONTRACTOR SHALL MAINTAIN THE SOIL EROSION, SEDIMENT, AND STORMWATER CONTROL MEASURES IN ACCORDANCE WITH THEIR APPROVED PLAN UNTIL THE SITE IS SEEDED AND STABILIZED WITH GRAVEL.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND SATISFACTORY DISPOSAL OF ALL TEMPORARY SOIL EROSION, SEDIMENT, AND STORMWATER CONTROL MEASURES UPON COMPLETION OF ALL RESTORATION WORK AS SHOWN ON THIS CONTRACT DRAWING.

LEGEND

- AREA TO BE RESTORED WITH 6-INCH LAYER OF GRAVEL
- AREA TO BE RESTORED WITH TOPSOIL AND SEEDED
- GRAVEL ACCESS ROAD TO BE RESTORED
- NEW MONITORING WELL
- EXISTING MONITORING WELL
- 7 FINISHED SUBGRADE ELEVATION CONTOUR
- 6.5 FINISHED SUBGRADE SPOT ELEVATION

1" = 40'

US Army Corps of Engineers Kansas City District

KERSHU TAN

Mark	Description	Date	Appr.
2	ADDRESSED USEPA AND USACE COMMENTS	01/2016	MR
1	GENERAL REVISIONS - ADDED BUILDING DEMOLITION	11/2015	MR

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS KANSAS CITY, MISSOURI

CDM Federal Programs Corporation

Designed by: J. OLCOTT | Dwn by: G. RODRIGUEZ | Ckd by: M. RAHMANI | Reviewed by: T. MATHEW | Submitted by: K. TAN | Date: JANUARY 2016 | Task Order: 003 | Contract no.: W912DQ-11-D-3004 | Plot date: 1/8/2016 | Plot by: Rodriguez, Gilberto | Scale: 1:1 | ANSIF

File name: CSTPL006.dwg

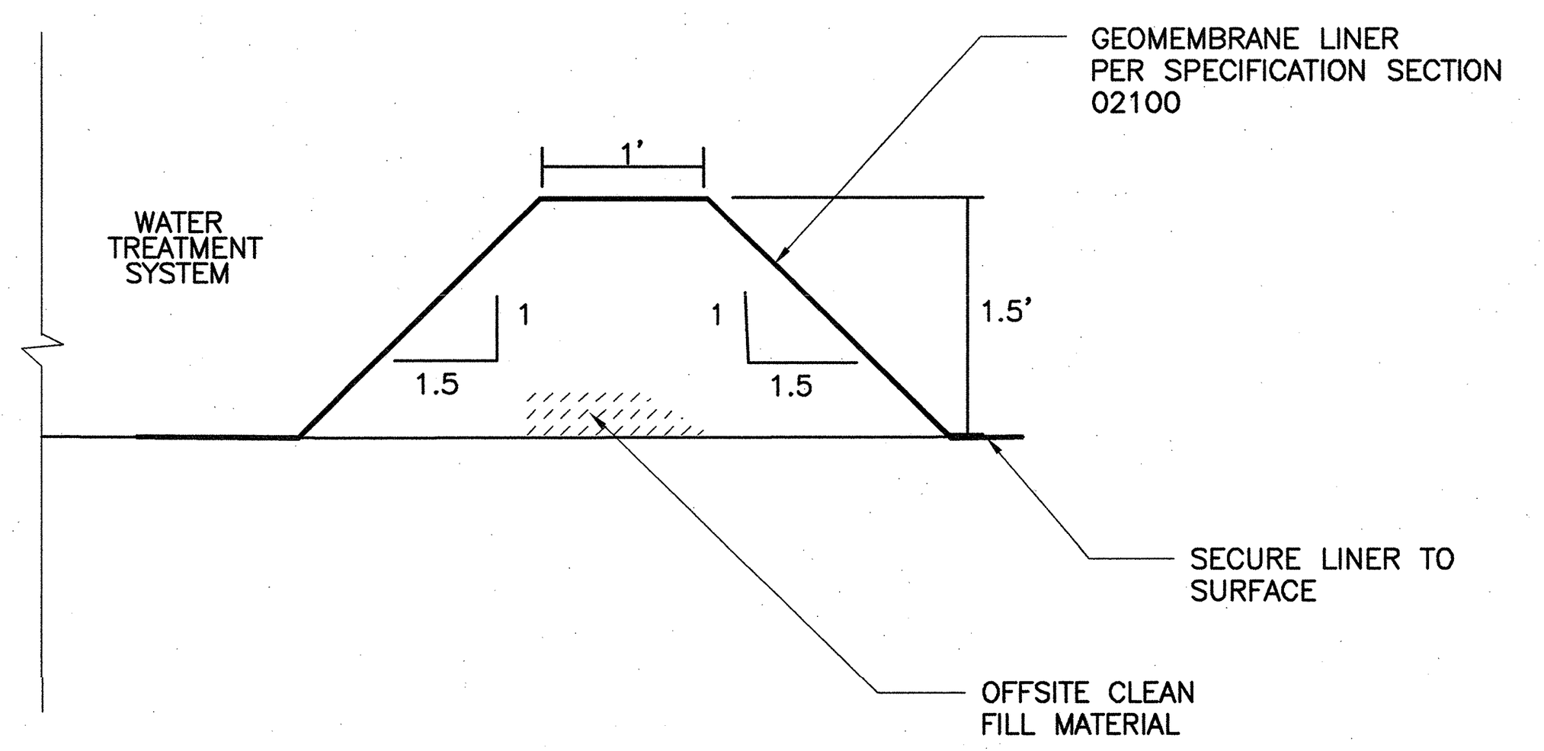
SYNCON RESINS SUPERFUND SITE
SOUTH KEARNY, HUDSON COUNTY, NEW JERSEY
REMEDIAL DESIGN

SITE-WIDE RESTORATION PLAN

SHEET NO. **C-6**

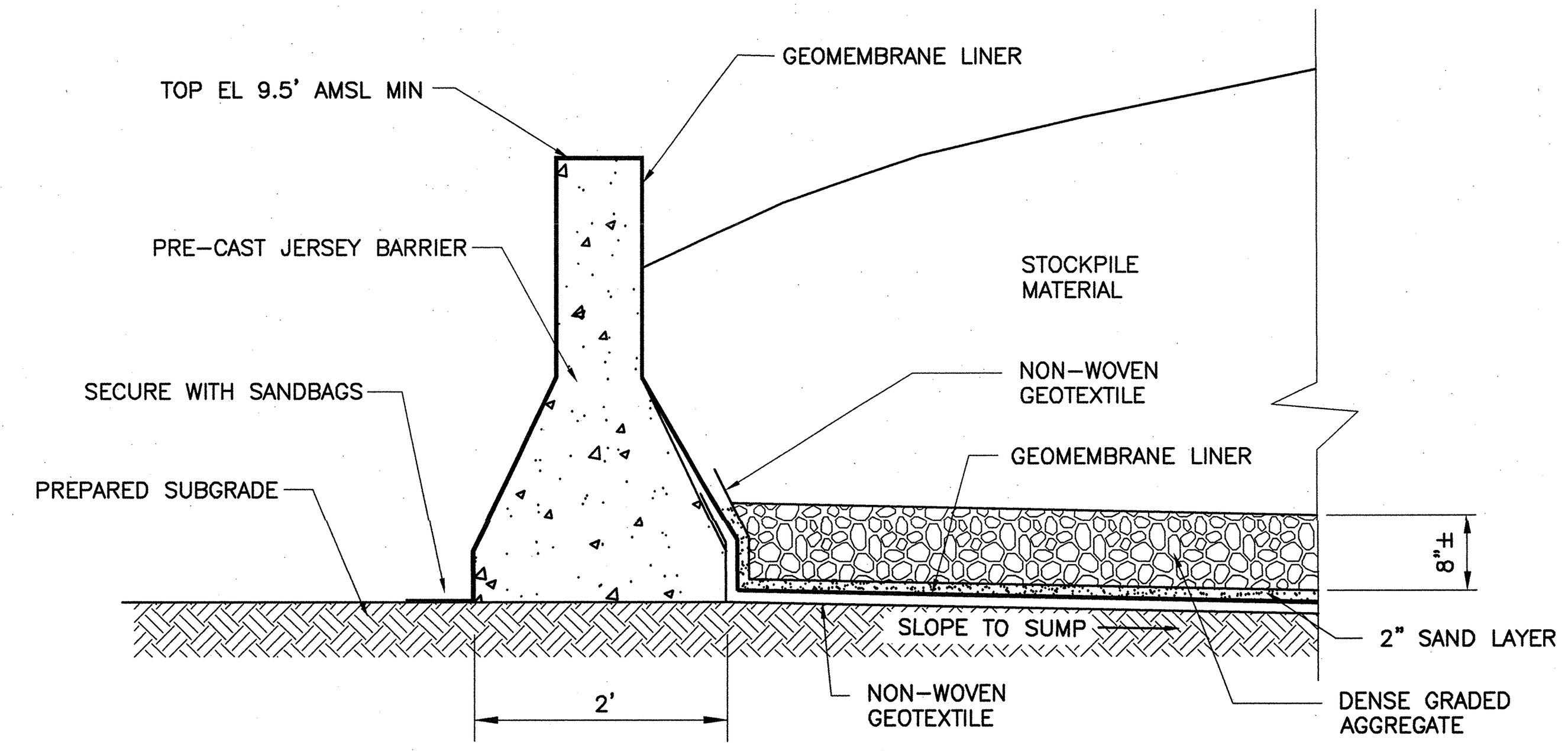
C:\cdmxm\larsonej\d0813125\ CSTPL005 06/11/12 13:55 larsonej XREFS: SCRSBRDR, CSTWP001

100% DESIGN – REVISION 2



WATER TREATMENT SYSTEM CONTAINMENT AREA BERM

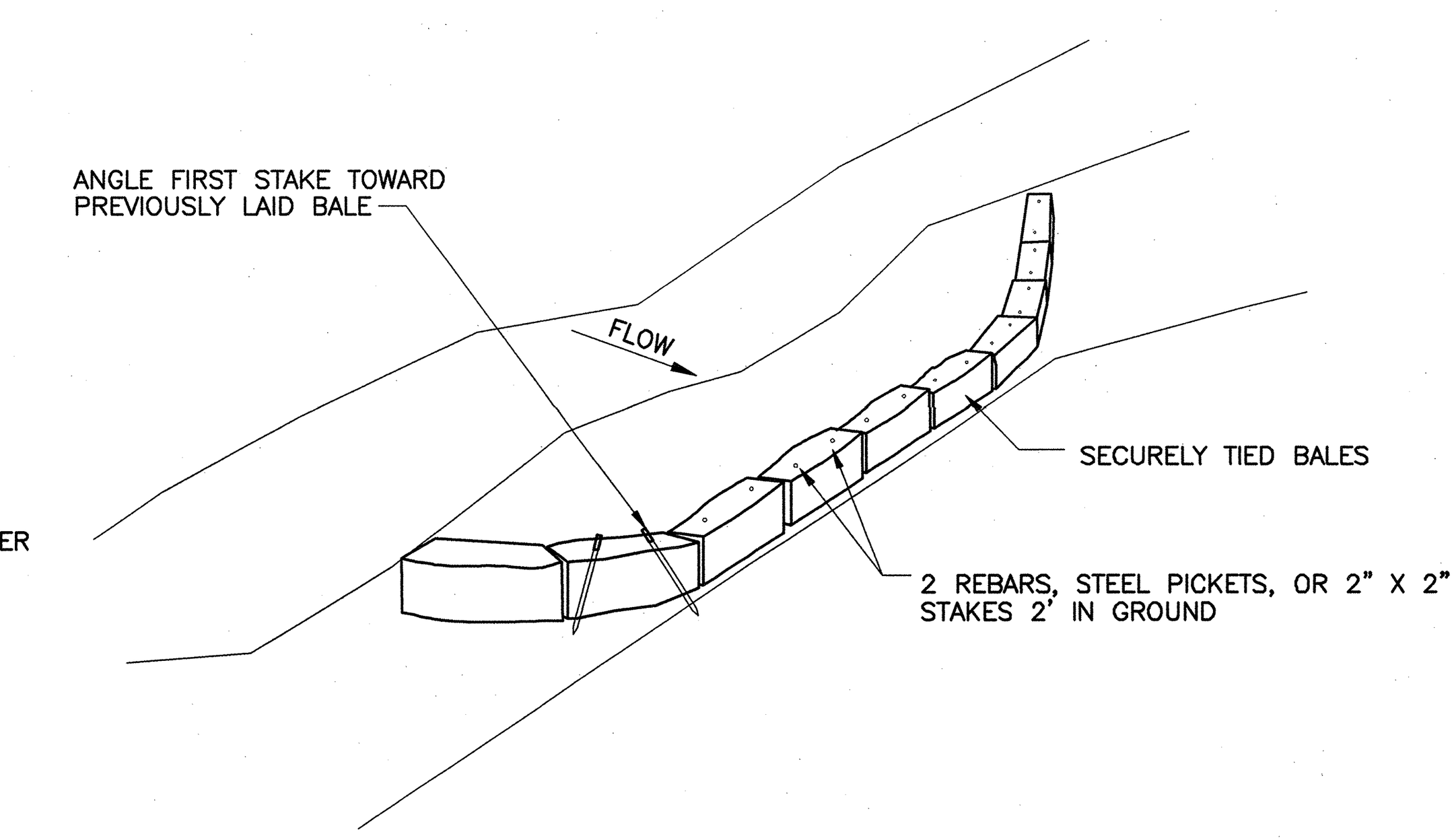
DETAIL A – NTS



CONTAMINATED MATERIAL STOCKPILE CONTAINMENT

DETAIL B – NTS

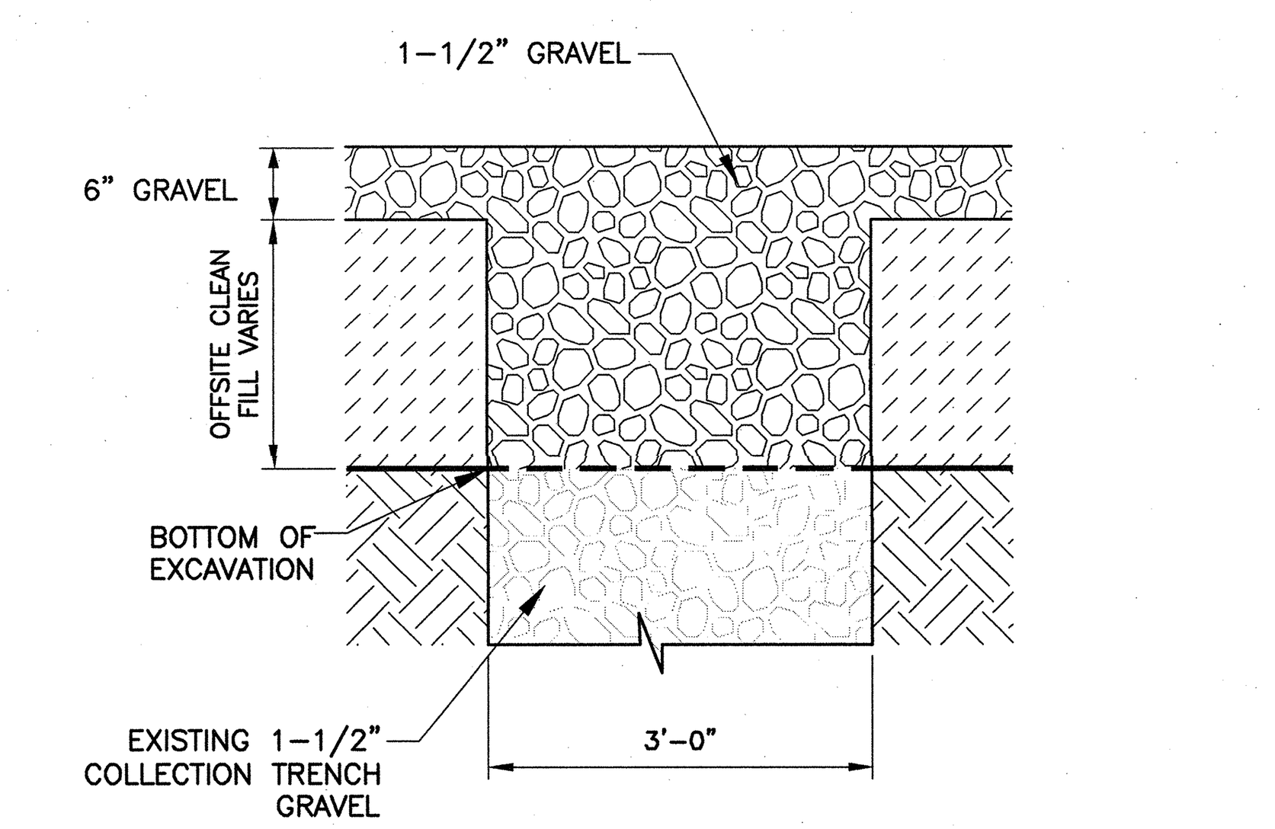
NOTE:
1. TOP ELEVATION OF JERSEY BARRIER SET AT MINIMUM 9.5' MSL TO ENSURE THE BARRIER IS HIGHER THAN THE FLOOD HAZARD ELEVATION OF 9.1' AMSL.
2. REFER TO SPECIFICATION SECTION 02100 FOR GEOMEMBRANE LINER, GEOTEXTILE, AND DENSE GRADED AGGREGATE MATERIAL SPECIFICATIONS.



NOTE:
BOTTOM OF HAYBALE SHALL BE PLACED 4 TO 6 INCHES BELOW GRADE TO PREVENT WATER FROM FLOWING UNDERNEATH THE HAY BALE.

BALE ANCHORING

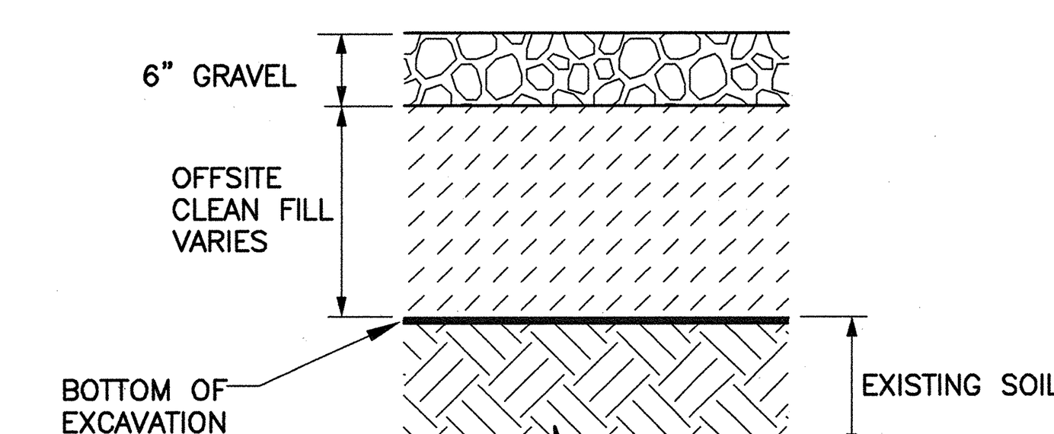
DETAIL F – NTS



SHALLOW GROUNDWATER COLLECTION TRENCH RESTORATION

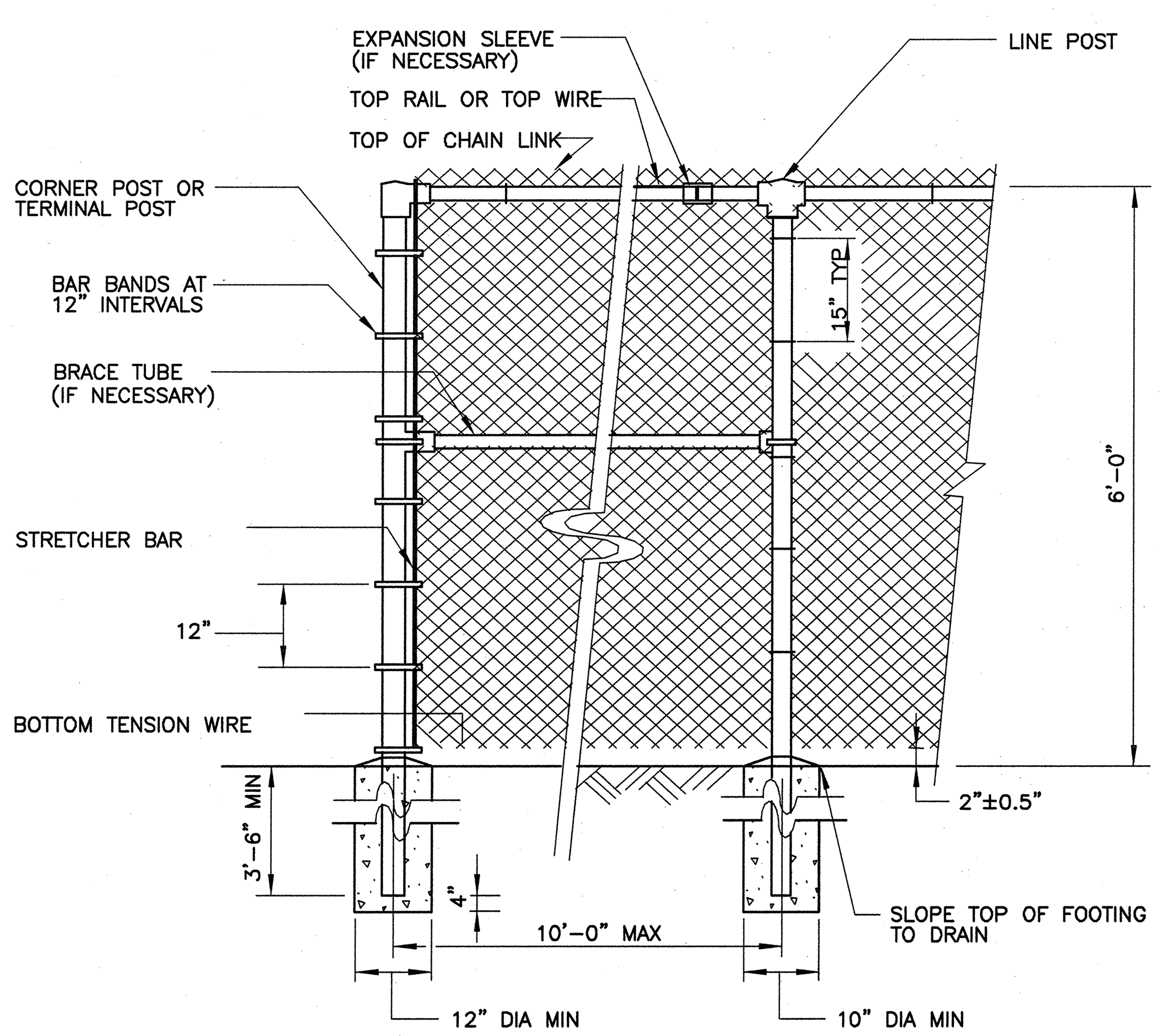
DETAIL I – NTS

NOTE:
GRAVEL REMOVED FROM THE GROUNDWATER COLLECTION TRENCH SHALL BE BACKFILLED TO THE FINISHED GRADE.



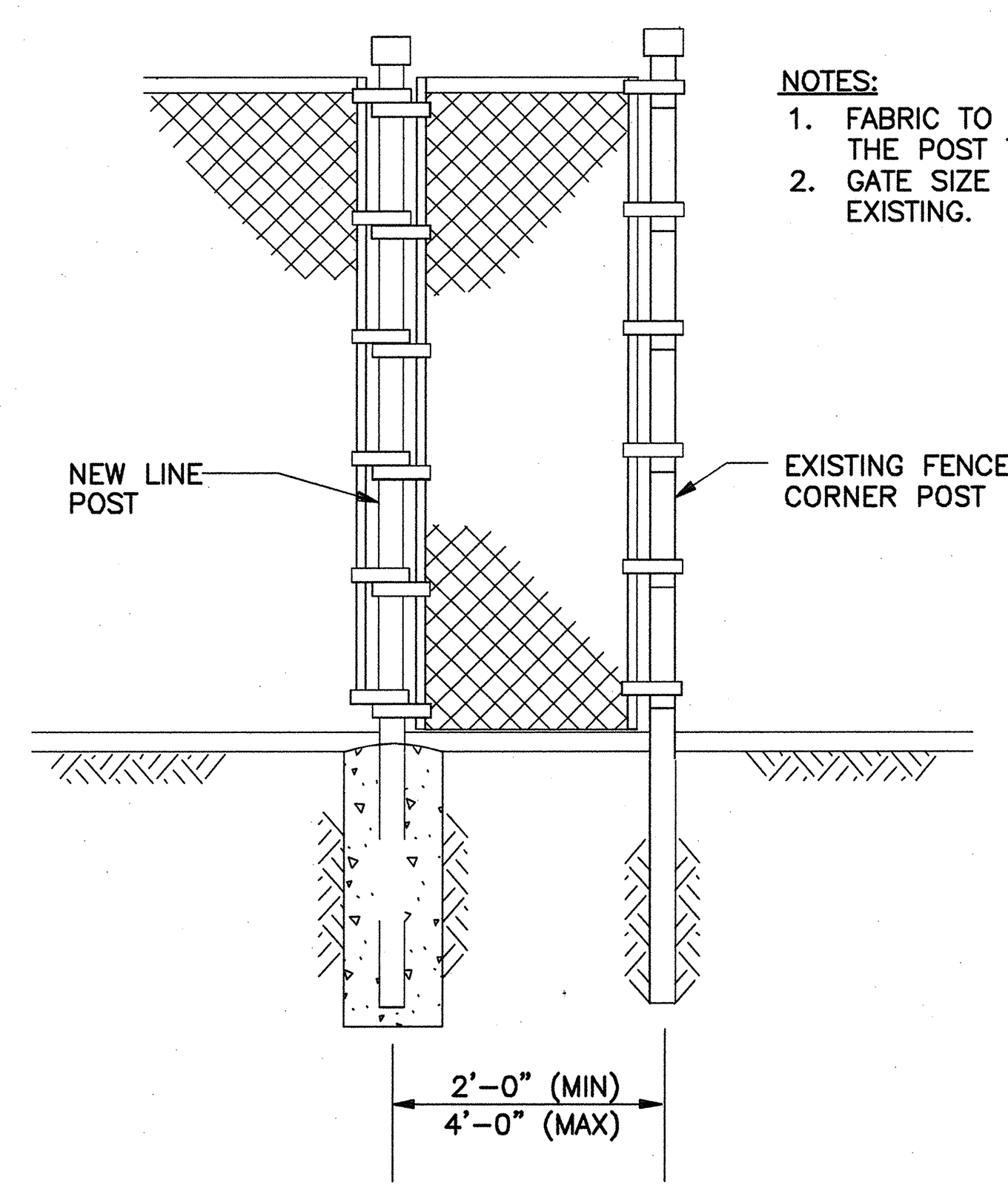
GRAVEL AREA RESTORATION

DETAIL J – NTS



CHAIN LINK FENCE

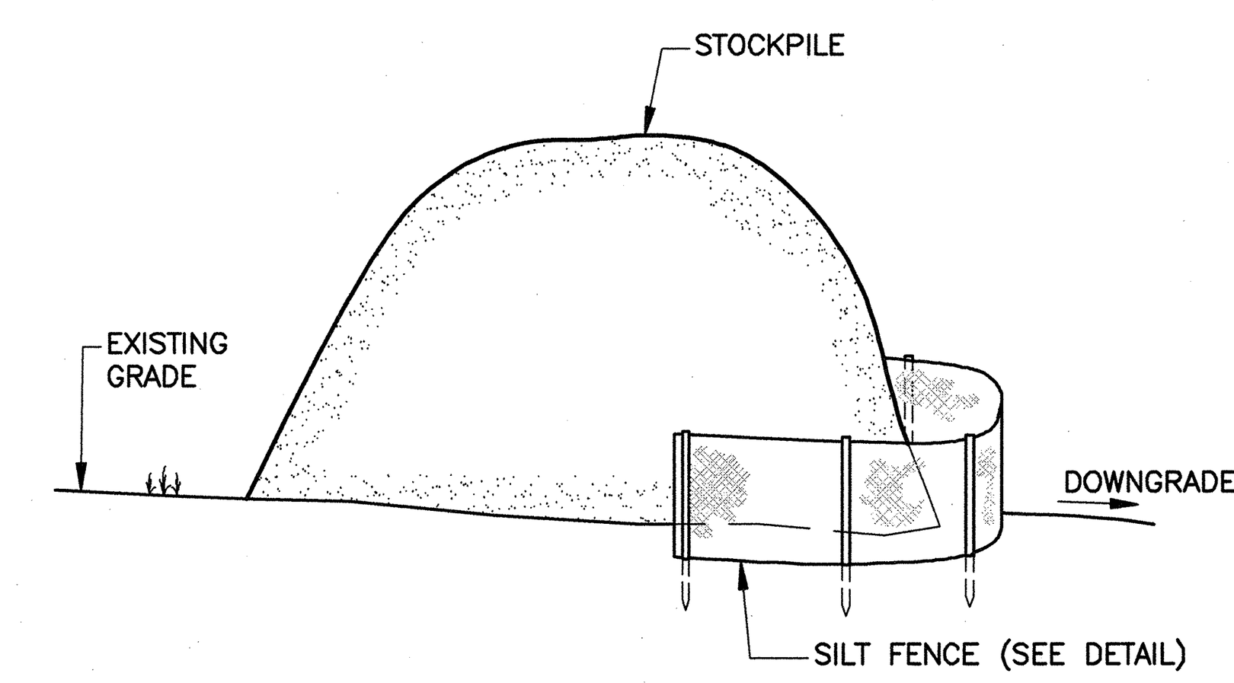
DETAIL C – NTS



NOTES:
1. FABRIC TO BE INSTALLED ON SIDE OF THE POST TO MATCH EXISTING.
2. GATE SIZE AND LOCATION SHALL MATCH EXISTING.

TYPICAL FENCE CONNECTION

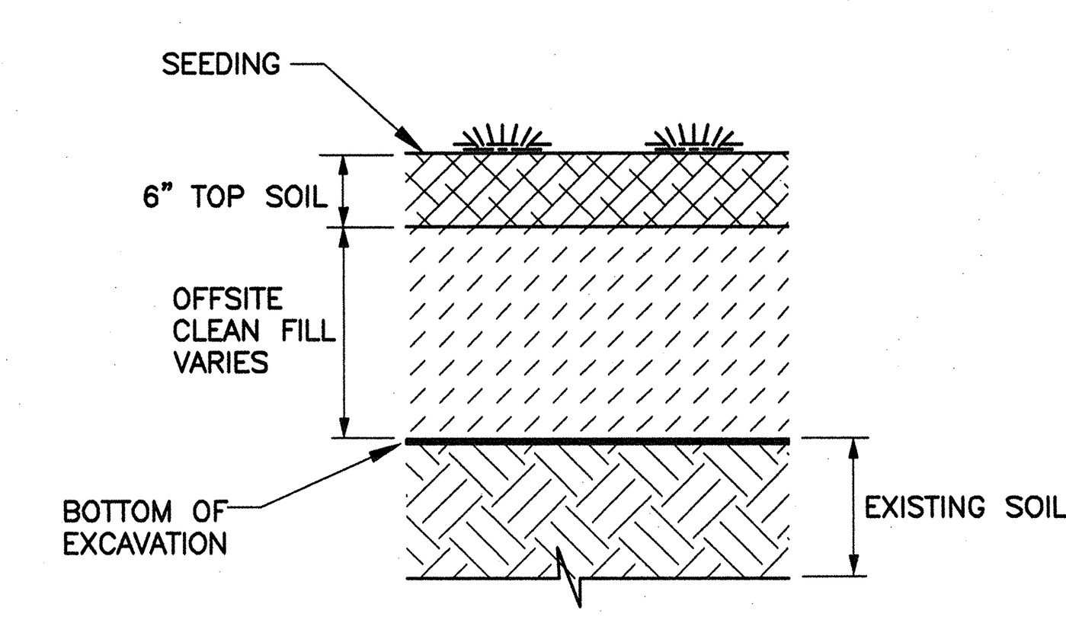
DETAIL D – NTS



NOTES:
STOCKPILE SHALL HAVE A 6 MIL POLYETHYLENE COVER.

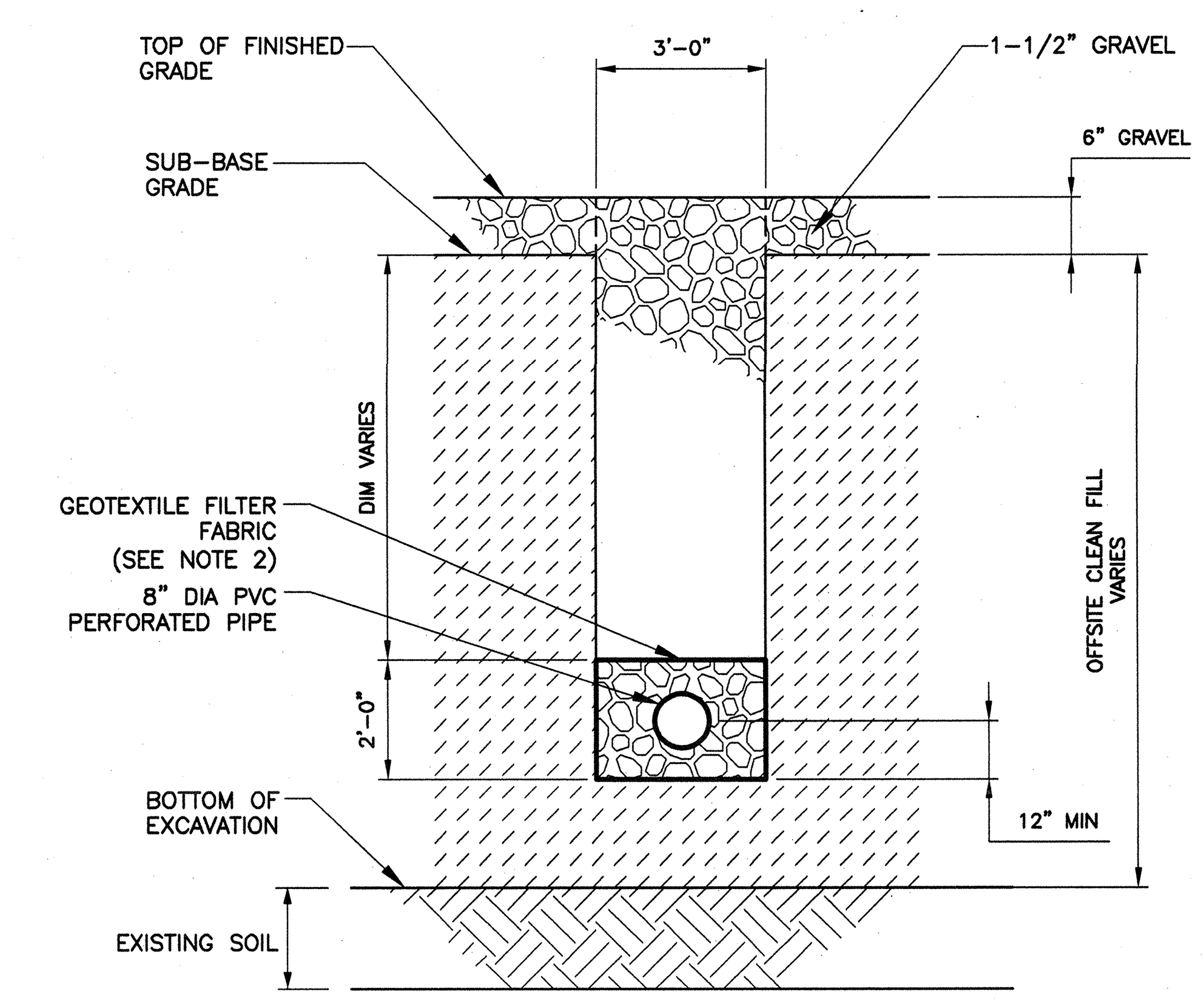
TEMPORARY CLEAN FILL STOCKPILE

DETAIL G – NTS



SEEDED AREA

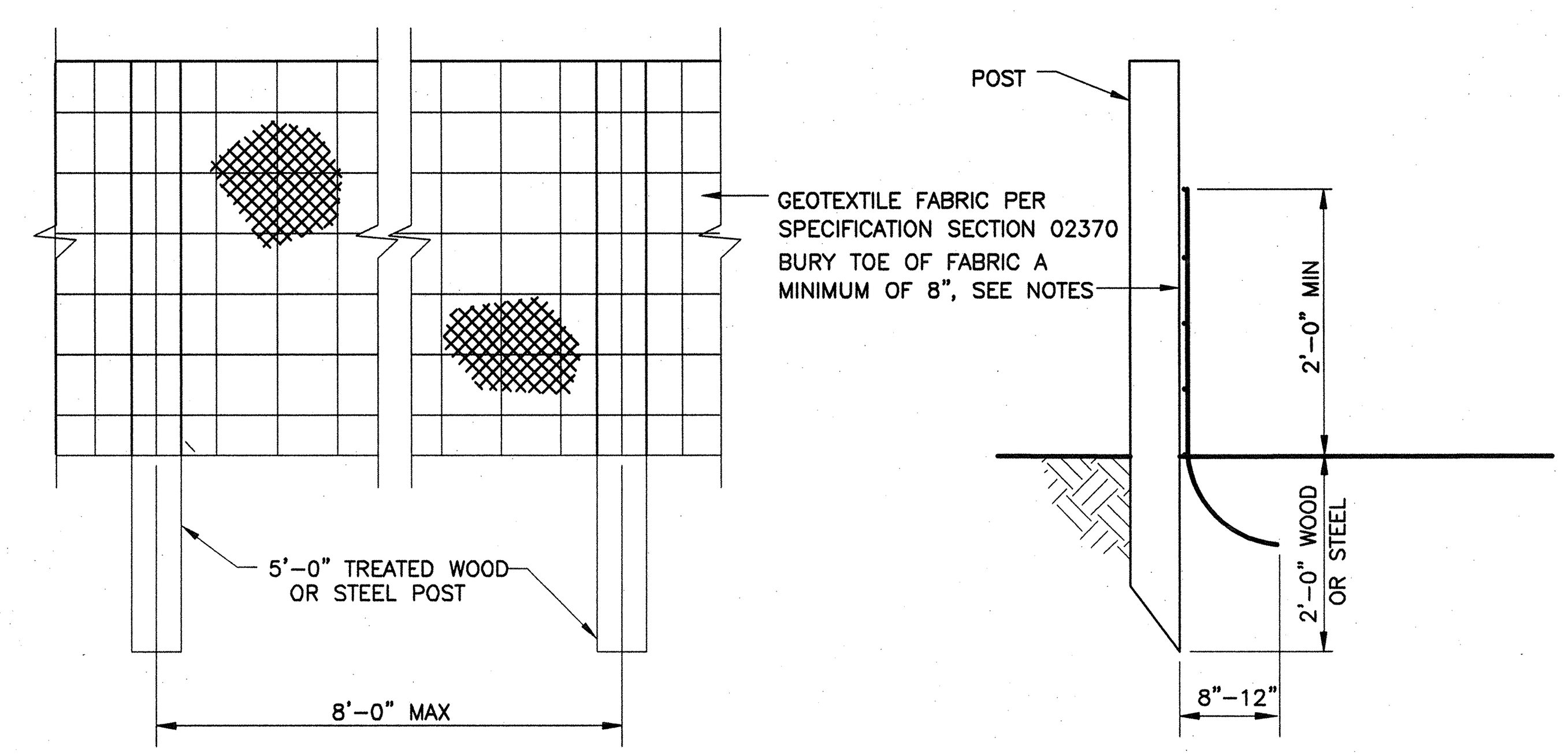
DETAIL H – NTS



DEEP GROUNDWATER COLLECTION TRENCH RESTORATION

DETAIL K – NTS

NOTES:
1. GRAVEL REMOVED FROM THE GROUNDWATER COLLECTION TRENCH SHALL BE BACKFILLED TO THE FINISHED GRADE.
2. REFER TO SPECIFICATION SECTION 02100 FOR GEOTEXTILE FABRIC REQUIREMENTS.



ELEVATION

SECTION

NOTES:
1. A PREASSEMBLED SILT FENCE MEETING THE REQUIREMENTS OF THIS DETAIL AND SPECIFICATION SECTION 02370 IS ACCEPTABLE IN LIEU OF A FIELD CONSTRUCTED FENCE.
2. THE ENTIRE SILT FENCE SHALL BE INSPECTED AND MAINTENANCE PERFORMED WEEKLY AND AFTER EACH RAIN EVENT.
3. FABRIC SHALL BE ATTACHED TO EACH POST WITH METAL FASTENERS AND REINFORCEMENT BETWEEN FASTENER AND FABRIC AT A MINIMUM OF 3 LOCATIONS.

SILT FENCE

DETAIL E – NTS

US Army Corps of Engineers
Kansas City District

KERSHU TAN

Mark	Description	Date	Appr.
2	ADDRESSED USEPA AND USACE COMMENTS	01/2016	MR
1	GENERAL REVISIONS - ADDED BUILDING DEMOLITION	11/2015	MR

Designed by: A. BOURGEOIS
Dwn by: G.RODRIGUEZ | Ckd by: M. RAHMANI
Reviewed by: T. MATHEW
Submitted by: K. TAN
Date: JANUARY 2016 | ANSIF
Task Order: 003
Contract no.: W912DQ-11-D-3004
Plot date: 1/8/2016
Plot by: Rodriguez, Gilberto
Scale: 1:1

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

CDM Federal Programs Corporation

File name: CSTDT001.dwg

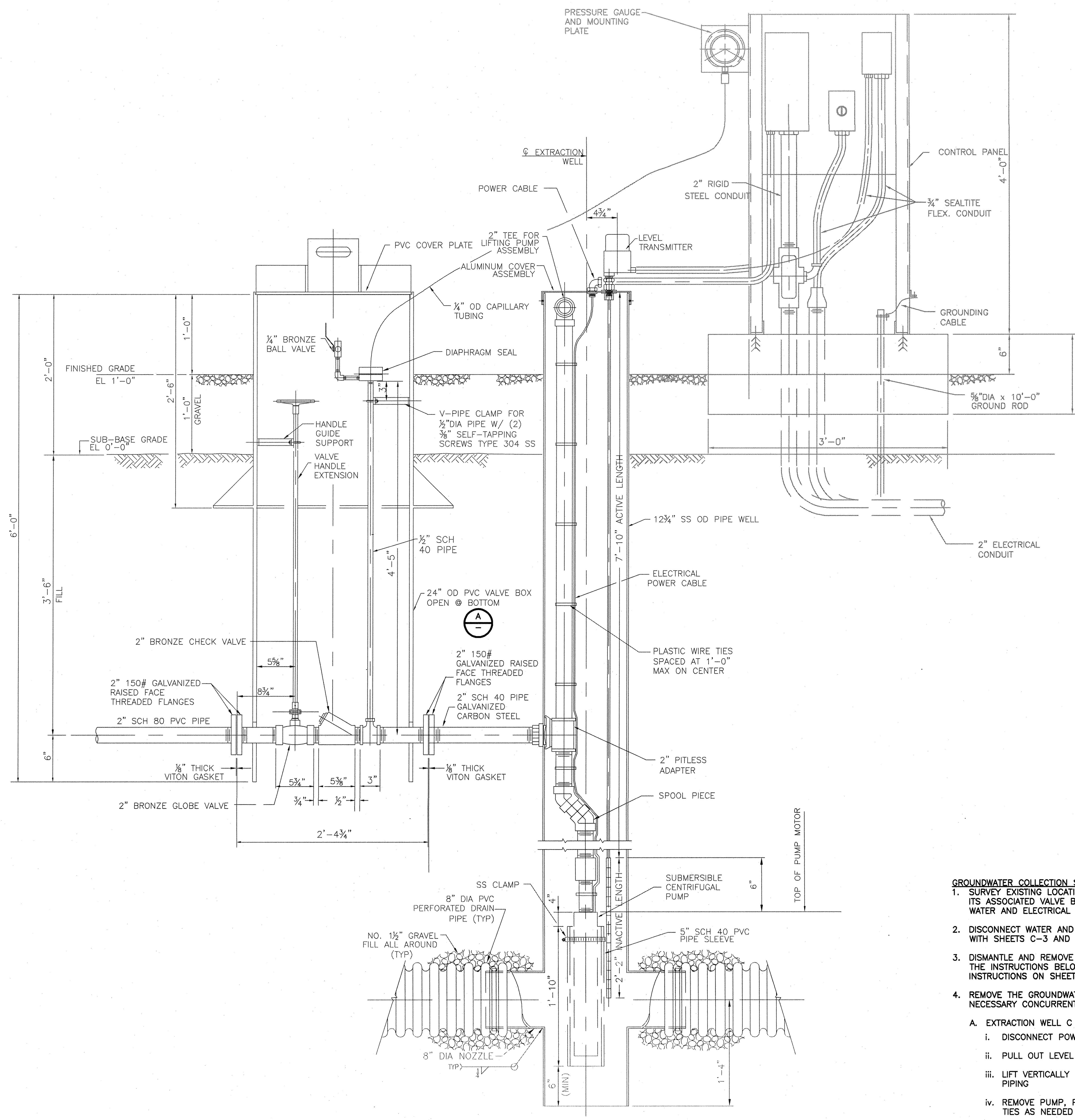
SYNCON RESINS SUPERFUND SITE
SOUTH KEARNY, HUDSON COUNTY, NEW JERSEY
REMEDIAL DESIGN

CIVIL DETAILS

SHEET NO.
CD-1

100% DESIGN – REVISION 2

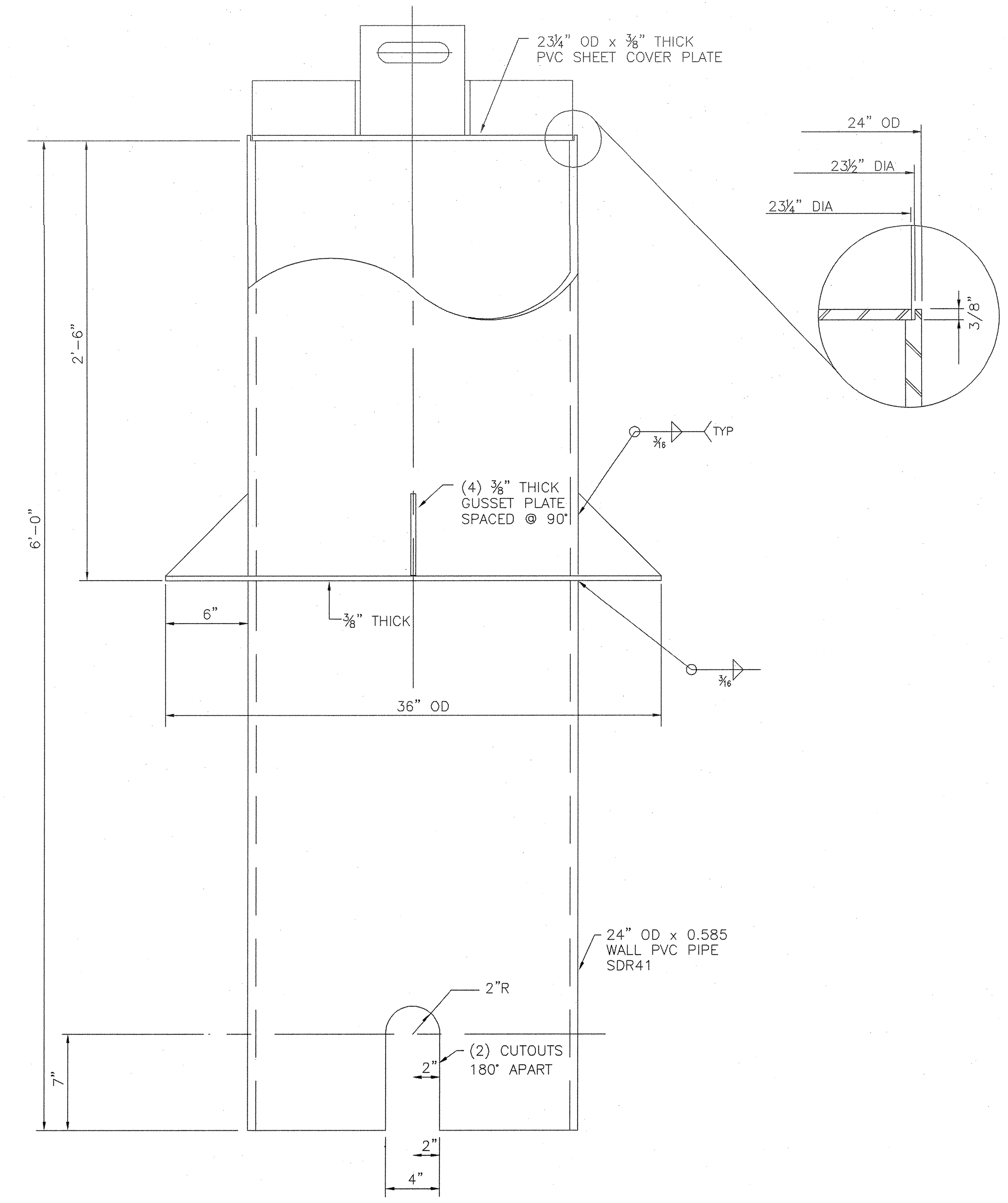
C:\cdmxm\larsonej\d0813125\ CSTDT001 06/07/12 15:21 larsonej XREFS: SCRSBRDR



EXTRACTION WELL C

SECTION (1/–)

NTS



ELEVATION

VALVE BOX

DETAIL (A/–)

NTS

EXTRACTION WELL C COORDINATES		
LOCATION[1]	NORTHING	EASTING
EXTRACTION WELL	693848.40	598667.52
VALVE BOX	693851.09	598667.83
CONTROL PANEL	693851.13	598664.78

1. COORDINATES AT CENTER OF EACH FEATURE

GROUNDWATER COLLECTION SYSTEM REMOVAL

1. SURVEY EXISTING LOCATIONS AND INVERTS OF FEATURES TO BE REMOVED: EXTRACTION WELL C AND ITS ASSOCIATED VALVE BOX AND CONTROL PANEL, THE GROUNDWATER COLLECTION TRENCH, AND WATER AND ELECTRICAL CONDUITS.
2. DISCONNECT WATER AND ELECTRICAL UTILITIES ASSOCIATED WITH EXTRACTION WELL C IN ACCORDANCE WITH SHEETS C–3 AND E–4.
3. DISMANTLE AND REMOVE EXTRACTION WELL C AND ITS ASSOCIATED VALVE BOX IN ACCORDANCE WITH THE INSTRUCTIONS BELOW. DISMANTLE AND REMOVE THE CONTROL PANEL IN ACCORDANCE WITH THE INSTRUCTIONS ON SHEET E–4. SALVAGE REMOVED MATERIALS FOR REUSE DURING REINSTALLATION.
4. REMOVE THE GROUNDWATER COLLECTION TRENCH AND WATER AND ELECTRICAL CONDUITS AS NECESSARY CONCURRENT TO EXCAVATION OPERATIONS IN ACCORDANCE WITH SHEET C–3.
   - A. EXTRACTION WELL C REMOVAL INSTRUCTIONS
     - i. DISCONNECT POWER CABLE FROM LEVEL TRANSMITTER AND EXTRACTION PUMP
     - ii. PULL OUT LEVEL TRANSMITTER PROBE
     - iii. LIFT VERTICALLY UPWARD ON LIFTING TEE TO DISCONNECT PITLESS ADAPTER FROM OUTLET PIPING
     - iv. REMOVE PUMP, PIPING AND POWER CABLE AS A UNIT FROM EXTRACTION WELL. REMOVE WIRE TIES AS NEEDED TO PROVIDE SUFFICIENT SLACK IN POWER CABLE
     - v. EXCAVATE SOIL AROUND PERIMETER OF EXTRACTION WELL C
     - vi. DISCONNECT 8" PVC PERFORATED PIPE FROM WELL CASING
     - vii. REMOVE WELL CASING
   - B. VALVE BOX REMOVAL INSTRUCTIONS
     - i. DISCONNECT POWER CABLES
     - ii. REMOVE DIAPHRAGM SEAL
     - iii. REMOVE PIPE CLAMPS INSIDE VALVE BOX
     - iv. EXCAVATE SOIL AROUND PERIMETER OF VALVE BOX
     - v. LIFT VERTICALLY UPWARD TO REMOVE PVC VALVE BOX CASING
     - vi. UNSCREW FLANGES CONNECTING TO 2" SCH 80 PVC PIPE
     - vii. REMOVE THE REMAINDER OF THE PIPING/INSTRUMENTATION ASSEMBLY

GROUNDWATER COLLECTION SYSTEM REINSTALLATION

1. REINSTALL EXTRACTION WELL C AND THE VALVE BOX AS SHOWN ON THIS CONTRACT DRAWING USING THE SALVAGED MATERIALS FROM REMOVAL. EXTRACTION WELL C AND THE VALVE BOX SHALL BE REINSTALLED BY PERFORMING THE REMOVAL INSTRUCTIONS IN REVERSE ORDER. PIPING, VALVES, AND APPURTENANCES THAT ARE UNABLE TO BE SALVAGED SHALL BE REPLACED WITH EQUIVALENT MATERIALS IN ACCORDANCE WITH INDUSTRY STANDARDS, AS APPROVED BY THE CONTRACTING OFFICER.
2. REINSTALL THE CONTROL PANEL IN ACCORDANCE WITH SHEETS E–4 AND E–5 USING THE SALVAGED MATERIALS FROM REMOVAL. MATERIALS THAT ARE UNABLE TO BE SALVAGED SHALL BE REPLACED WITH EQUIVALENT MATERIALS AS APPROVED BY THE CONTRACTING OFFICER.
3. INSTALL GROUNDWATER COLLECTION TRENCH, INFLUENT PIPE, AND ELECTRICAL CONDUIT IN ACCORDANCE WITH SHEET C–6 AND THE ELECTRICAL DRAWINGS.
4. PERFORM HYDRAULIC AND CONTROL FUNCTIONAL TESTING TO EVALUATE FUNCTIONALITY AND OPERATION OF EXTRACTION WELL C.

US Army Corps of Engineers Kansas City District

KERSHU TAN
N.J. PROFESSIONAL ENGINEER NO. 24GE04395200

Mark	Description	Date	Appr.
2	ADDRESSED USEPA AND USACE COMMENTS	01/2016	MR
1	GENERAL REVISIONS - ADDED BUILDING DEMOLITION	11/2015	MR

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

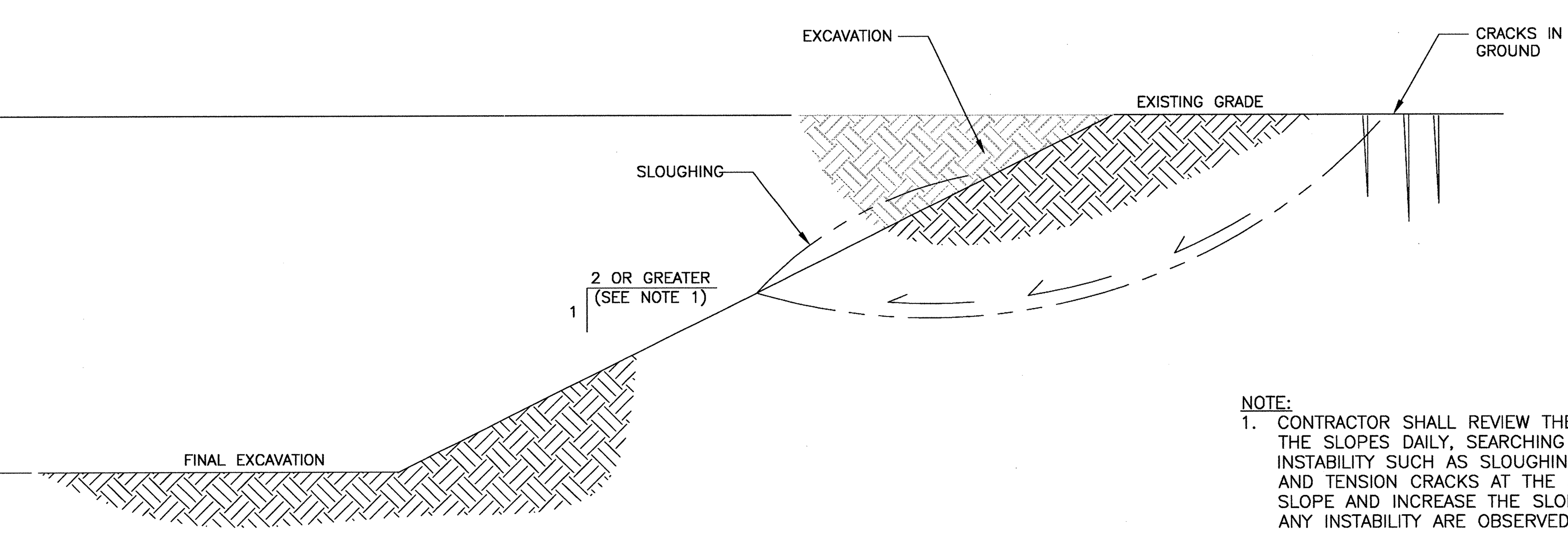
CDM Federal Programs Corporation

Designed by: A. BOURGEOIS
Dwn by: G. RODRIGUEZ
Ckd by: M. RAHMANI
Reviewed by: T. MATHEW
Submitted by: K. TAN
Date: JANUARY 2016
ANSIF
Task Order: 003
Contract no.: W912DQ-11-D-3004
Plot date: 1/8/2016
Plot by: Rodriguez, Gilberto
Scale: 1:1
File name: CEWDT002.dwg

SYNCON RESINS SUPERFUND SITE
SOUTH KEARNY, HUDSON COUNTY, NEW JERSEY
REMEDIAL DESIGN

EXISTING EXTRACTION WELL DETAILS

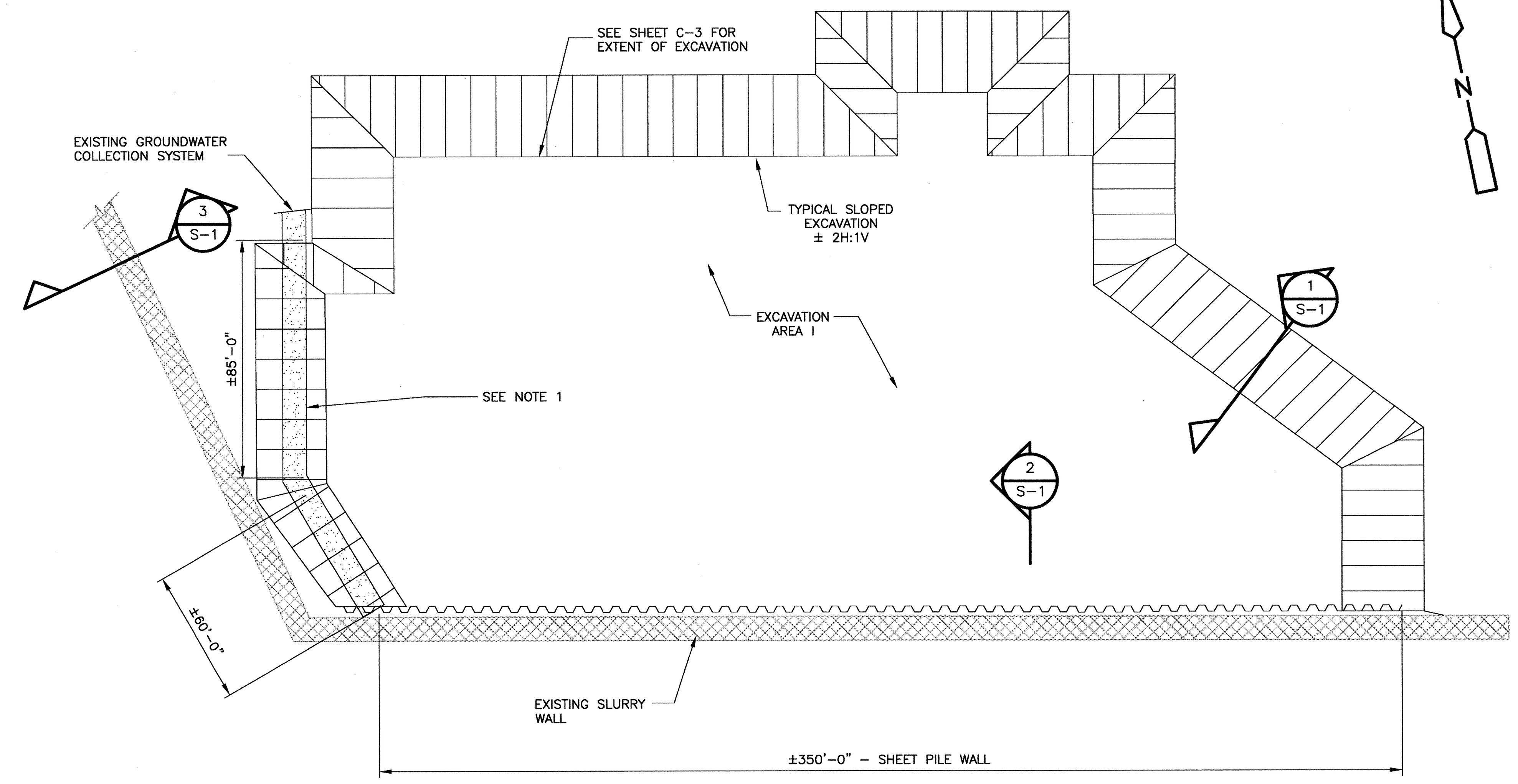
SHEET NO.
CD-2



NOTE:
1. CONTRACTOR SHALL REVIEW THE STABILITY OF THE SLOPES DAILY, SEARCHING FOR SIGNS OF INSTABILITY SUCH AS SLOUGHING ON THE SLOPE AND TENSION CRACKS AT THE HEAD OF THE SLOPE AND INCREASE THE SLOPE IF SIGNS OF ANY INSTABILITY ARE OBSERVED.

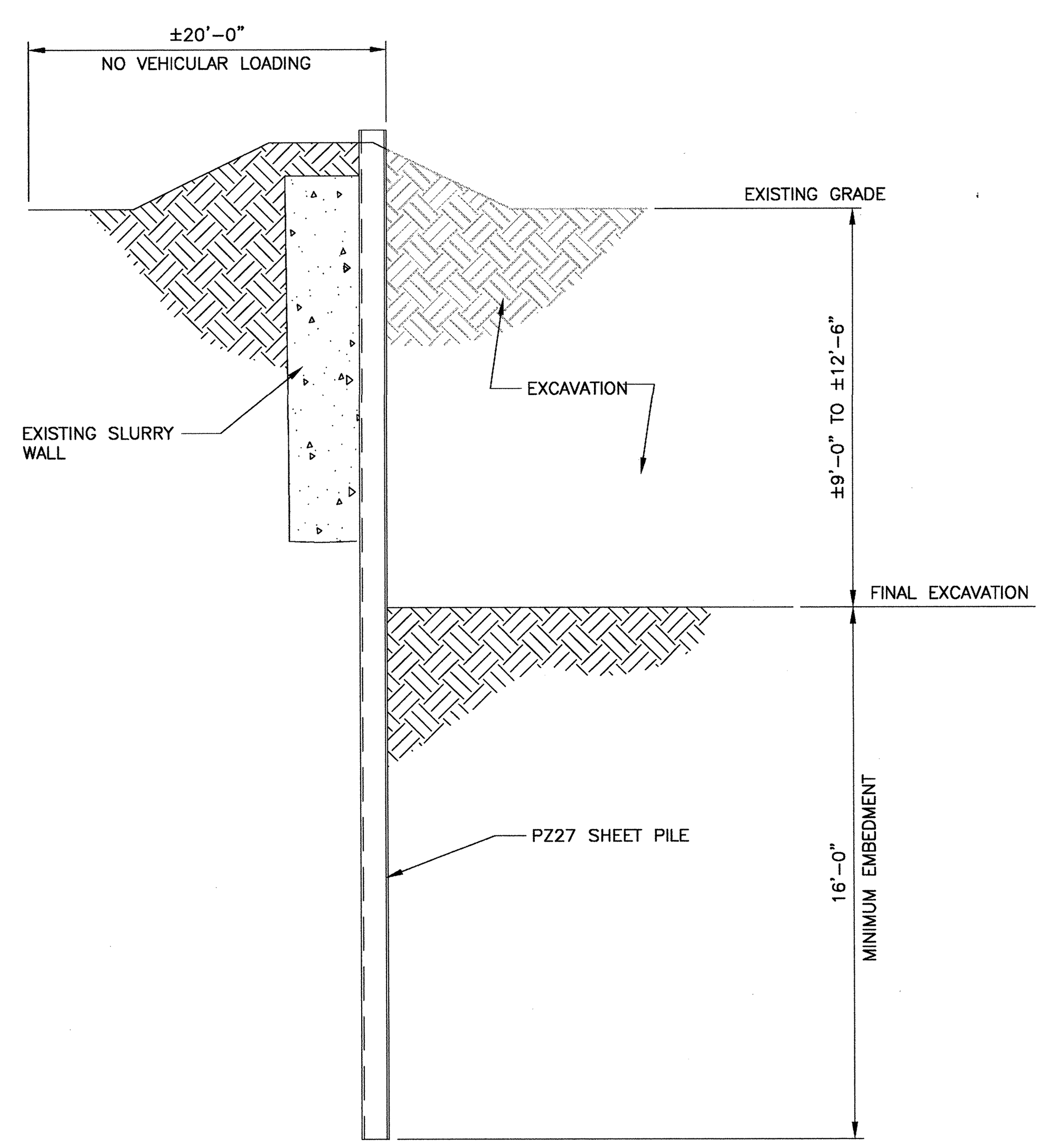
TYPICAL SECTION AT SLOPED EXCAVATION

SECTION 1/S-1
1/4"=1'-0"



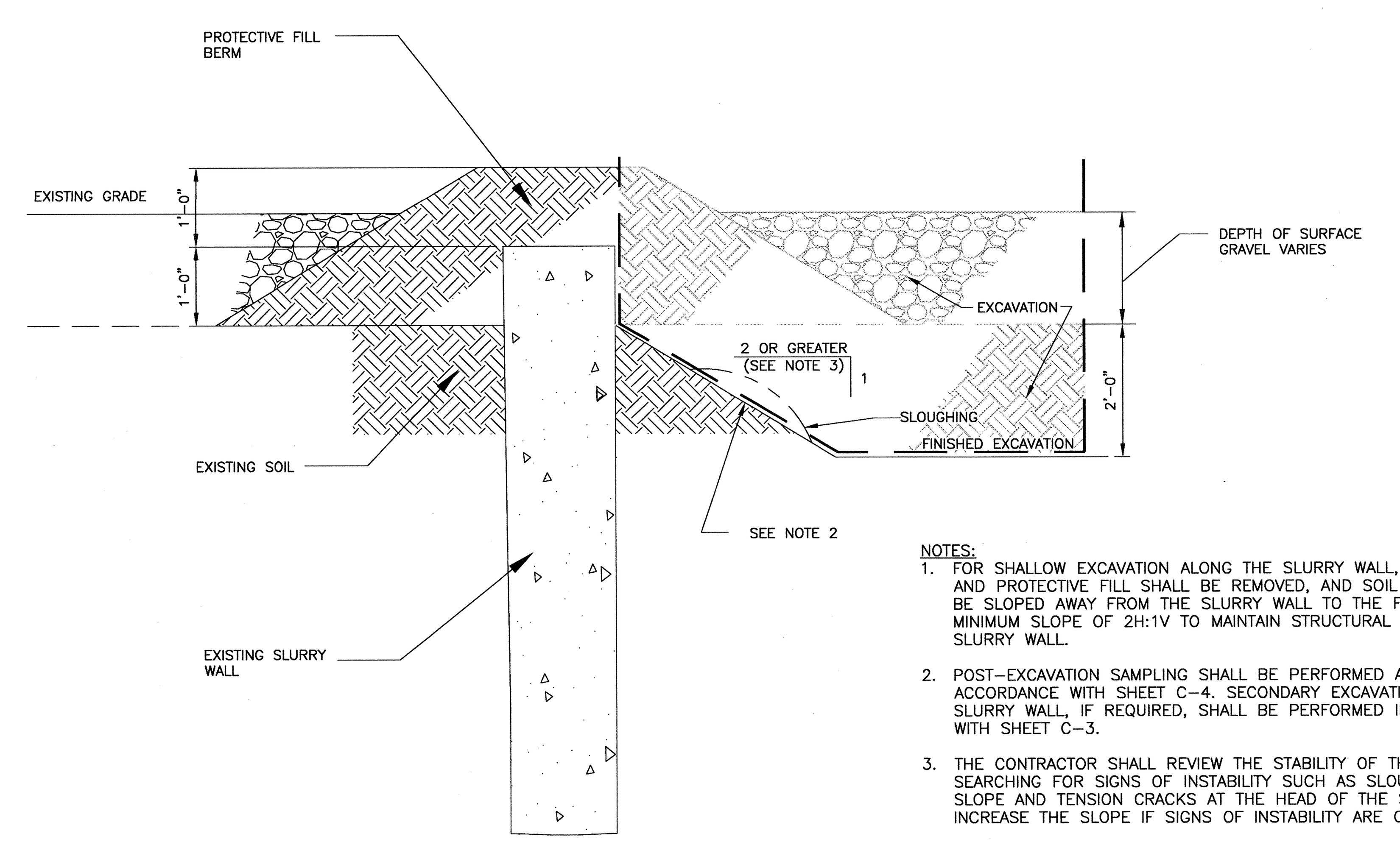
EXCAVATION AREA I
KEY PLAN
NTS

NOTES:
1. REMOVE EXTRACTION WELL C, GROUNDWATER COLLECTION TRENCH, AND WATER AND ELECTRICAL CONDUITS WITHIN THE SLOPED AREA IN ACCORDANCE WITH SHEET CD-2 AND E-4.
2. COORDINATE ALL SHEET PILE LOCATIONS W/ FIELD CONDITIONS AND LOCATIONS OF EXISTING SLURRY WALL AND EXISTING GROUNDWATER COLLECTION SYSTEM.



TYPICAL SECTION AT SLURRY WALL AT DEEP EXCAVATION

SECTION 2/S-1
1/4"=1'-0"



TYPICAL SECTION AT SLURRY WALL AT SHALLOW EXCAVATION

SECTION 3/S-1
1/4"=1'-0"

NOTES:
1. FOR SHALLOW EXCAVATION ALONG THE SLURRY WALL, SURFACE GRAVEL AND PROTECTIVE FILL SHALL BE REMOVED, AND SOIL EXCAVATION SHALL BE SLOPED AWAY FROM THE SLURRY WALL TO THE FINAL DEPTH AT A MINIMUM SLOPE OF 2H:1V TO MAINTAIN STRUCTURAL INTEGRITY OF THE SLURRY WALL.
2. POST-EXCAVATION SAMPLING SHALL BE PERFORMED ALONG SLOPES IN ACCORDANCE WITH SHEET C-4. SECONDARY EXCAVATION ABUTTING THE SLURRY WALL, IF REQUIRED, SHALL BE PERFORMED IN ACCORDANCE WITH SHEET C-3.
3. THE CONTRACTOR SHALL REVIEW THE STABILITY OF THE SLOPES DAILY, SEARCHING FOR SIGNS OF INSTABILITY SUCH AS SLOUGHING ON THE SLOPE AND TENSION CRACKS AT THE HEAD OF THE SLOPE AND INCREASE THE SLOPE IF SIGNS OF INSTABILITY ARE OBSERVED.
4. ALONG SECTIONS OF THE SLURRY WALL WHERE EXCAVATION IS REQUIRED ON BOTH SIDES, ONLY ONE SIDE SHALL HAVE AN OPEN EXCAVATION AT A TIME.
5. THE CONTRACTOR SHALL RECONSTRUCT THE BERM OF PROTECTIVE FILL EQUIVALENT TO THE EXISTING CONDITIONS UPON COMPLETION OF BACKFILL ACTIVITIES ALONG THE SLURRY WALL IN ACCORDANCE WITH SHEET C-6.

US Army Corps of Engineers
Kansas City District

BILGIN EREL
N.J. PROFESSIONAL ENGINEER
NO. 24GE04214300

Mark	Description	Date	Appr.
2	ADDRESSED USEPA AND USACE COMMENTS	01/2016	MR
1	GENERAL REVISIONS - ADDED BUILDING DEMOLITION	11/2015	MR

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

CDM Federal Programs Corporation

ENGINEERING TECHNOLOGIES, INC.

Designed by: B. EREL		Date: JANUARY 2016
Dwn by: J. SOBCZAK	Ckd by: D. MORRIS	Task Order: 003
Reviewed by: B. EREL		Contract no.: W912DQ-11-D-3004
Submitted by: K. TAN		Plot date: 11/06/15 Plot by: Rodriguez, Gilberto Scale: 1:1

ANSIF

File name: S-1.dwg

SYNCON RESINS SUPERFUND SITE
SOUTH KEARNY, HUDSON COUNTY, NEW JERSEY
REMEDIAL DESIGN

EXCAVATION SUPPORT SYSTEM PLAN AND DETAILS

SHEET NO.
S-1

pw:\\dacpwapp1:PW_XM1\Documents\51147\88807\04 Design Services NM_90%\02 Civil\10 CADD\Structural\S-1.dwg

100% DESIGN – REVISION 2

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
52 CS	—	MEDIUM VOLTAGE DRAWOUT TYPE POWER CIRCUIT BREAKER CS=CONTROL SWITCH
FRAME TRIP	CB	LOW VOLTAGE AIR OR MOLDED CASE CIRCUIT BREAKER, 3 POLE UNLESS OTHERWISE NOTED.
*		COMBINATION MOTOR CIRCUIT PROTECTOR AND MAGNETIC MOTOR STARTER, FULL VOLTAGE NON-REVERSING UNLESS OTHERWISE NOTED: * FVR – FULL VOLTAGE REVERSING RVNR – REDUCED VOLTAGE NON-REVERSING RVAT – REDUCED VOLTAGE AUTOTRANSFORMER RVSS – REDUCED VOLTAGE SOLID STATE 2S1W – TWO SPEED, ONE WINDING RS2W – TWO SPEED, TWO WINDING (DIAGRAMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)
*		NON-FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE * AMPERE RATING NOTED IF OTHER THAN 30A (DIAGRAMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)
* ✱	F	FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE, * AMPERE RATING AND FUSE SIZE AS NOTED ✱ AMPERE RATING NOTED IF OTHER THAN 30A FUSE RATING (DIAGRAMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)
	P 2	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD HEATER, 1 POLE UNLESS OTHERWISE NOTED "P" INDICATES WITH PILOT LIGHT "2" INDICATES TWO POLE (DIAGRAMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)
	—	DRAWOUT TYPE EQUIPMENT OR DEVICE
	—	MEDIUM VOLTAGE CABLE TERMINATION
	—	MEDIUM VOLTAGE AIR INTERRUPTER SWITCH
✱	—	MEDIUM VOLTAGE FUSED AIR INTERRUPTER SWITCH ✱ FUSE RATING
	—	MEDIUM VOLTAGE FUSED MOTOR CONTROLLER
VOLTS_PRI XX_KVA VOLTS_SEC 3P/4W	T	TRANSFORMER, RATINGS AND CONNECTIONS AS NOTED. UNLESS OTHERWISE NOTED ON THE SINGLE LINE DIAGRAMS, ALL DRY TYPE TRANSFORMERS SERVICING ADMINISTRATIVE AND LABORATORY SPACES SHALL HAVE A K FACTOR OF 4. ISOLATION TRANSFORMERS SHALL HAVE A K-20 RATING
* A TO 5	—	CURRENT TRANSFORMER * QUANTITY A = PRIMARY AMPERES
* V TO 120	—	CURRENT TRANSFORMER * QUANTITY V = PRIMARY VOLTAGE
	G	GENERATOR, RATINGS AND CONNECTIONS AS NOTED
ATS _A	—	AUTOMATIC OR MANUAL TRANSFER SWITCH NO.1 (ATS-1), (MTS-1) "N" INDICATES NORMAL OR PREFERRED SOURCE "S" INDICATES STANDBY OR ALTERNATE SOURCE 100A INDICATES CONTINUOUS CURRENT RATING
*	*	VARIABLE SPEED DRIVE CONTROLLER * D.C. = D.C. DRIVE CONTROLLER SCR = SILICON CONTROLLED RECTIFIER VFD = VARIABLE FREQUENCY DRIVE
#KW	E	UNIT HEATER – ELECTRIC HEATING COIL AND FAN # – RATING
—	U	UNIT HEATER – STEAM OR WATER HEATING COIL AND FAN
5	M	MOTOR, NUMERAL INDICATES HORSEPOWER
VS VM *	—	VOLTMETER WITH SWITCH, 3 PHASE
AS AM *	—	AMMETER WITH SWITCH, 3 PHASE

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
*	—	METER * WM – WATTMETER WHM – WATTHOUR METER WHDM – WATTHOUR DEMAND METER WHDR – WATTHOUR DEMAND RECORDER PF – POWER FACTOR METER ETM – ELAPSED TIME METER TRANSDUCER AX – CURRENT TRANSDUCER WX – WATT TRANSDUCER WHX – WATTHOUR TRANSDUCER
*	*	RELAY, NO. AS INDICATED 25 – SYNCHRONISM CHECK RELAY 27 – UNDERVOLTAGE RELAY 32 – DIRECTIONAL POWER RELAY 38 – BEARING PROTECTIVE DEVICE 40 – LOSS OF EXCITATION RELAY 42 – RUNNING CONTACTOR/PILOT RELAY 46 – REVERSE PHASE/PHASE BALANCE/CURRENT RELAY 47 – PHASE SEQUENCE VOLTAGE RELAY 49 – MACHINE OR TRANSFORMER THERMAL RELAY 50/51 – INSTANTANEOUS/TIME OVERCURRENT RELAY 50G – INSTANTANEOUS GROUND 51 – TIME OVERCURRENT RELAY 51G – TIME OVERCURRENT RELAY, GROUNDING RESISTOR TYPE 51N – TIME OVERCURRENT RELAY, RESIDUAL TYPE 51V – TIME OVERCURRENT RELAY WITH VOLTAGE RESTRAINT 51X – AUXILIARY RELAY (TRIPS CB AND ALARMS) 59 – OVERVOLTAGE RELAY 60 – NEGATIVE SEQUENCE VOLTAGE RELAY 62 – TIME DELAY RELAY 63 – OVERPRESSURE RELAY 64 – GENERATOR FIELD GROUND RELAY 67 – AC DIRECTIONAL OVERCURRENT RELAY 74 – ALARM LATCHING RELAY 83 – AUTOMATIC SELECTIVE CONTROL OR TRANSFER RELAY 86 – LOCKING-OUT RELAY 87 – DIFFERENTIAL PROTECTIVE RELAY B – SUFFIX INDICATES "BUS" G – SUFFIX INDICATES "GENERATOR" GF – GROUND FAULT ST – SHUNT TRIP T – SUFFIX INDICATES "TRANSFORMER" X – SUFFIX INDICATES "AUXILIARY"
*	—	SPECIAL CAPACITOR * SC – SURGE CAPACITOR PF – POWER FACTOR CORRECTION CAPACITOR
*	—	TUNED POWER FACTOR CORRECTION CAPACITOR
	—	PUSHBUTTON, MOMENTARY CONTACT, SPRING RETURN, NORMALLY CLOSED
	—	PUSHBUTTON, MOMENTARY CONTACT, SPRING RETURN, NORMALLY OPEN
	ES	EMERGENCY STOP PUSHBUTTON WITH RED MUSHROOM HEAD OPERATOR (MAINTAINED CONTACT)
STOP START	PBL	START-STOP PUSHBUTTON CONTROL STATION (MOMENTARY CONTACT) WITH LOCKOUT DEVICE ON STOP
	PBM	START-STOP PUSHBUTTON CONTROL STATION, MAINTAINED CONTACT WITH LOCKOUT DEVICE ON STOP
OFF ON	S/S	OFF/ON SELECTOR SWITCH
L R (XO) (OX)	LR	LOCAL/REMOTE SELECTOR SWITCH
A B C* (XOO) (OOX) (OOX)	*	3 POSITION SELECTOR SWITCH, MAINTAINED CONTACT O-OPEN X-CLOSED (see table below) NAMEPLATE (A/B/C) HOA – HAND/OFF/AUTO HOR – HAND/OFF/REMOTE LOR – LOCAL/OFF/REMOTE RSL – RAISE/STOP/LOWER TOA – TEST/OFF/AUTO

GD/VF #	GD/VF #	GAS DETECTOR / VENTILATION FAILURE ALARM
		# INDICATES TYPE OF UNIT
		1=MASTER, 2=REMOTE

42 #	—	MOTOR STARTER COIL, NUMBER AS INDICATED TO DENOTE INTERLOCKING ONLY
CR #	—	CONTROL RELAY COIL, NUMBER AS INDICATED

POSITION	TOP CONTACT	MIDDLE CONTACT	BOTTOM CONTACT
A	X	O	O
B	O	O	O
C	O	O	X

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
*	—	PILOT LIGHT, COLOR AS NOTED * R – RED G – GREEN B – BLUE W – WHITE A – AMBER
	—	PILOT LIGHT, PUSH-TO-TEST TYPE, COLOR AS NOTED ABOVE.
* # RANGE SETPOINT * NOTC NCTO NOTO NCTC		TIME DELAY RELAY RANGE AS NOTED SETPOINT AS NOTED # NUMBER AS INDICATED * TDE – TIME DELAY AFTER ENERGIZATION ON DELAY TDD – TIME DELAY AFTER DE-ENERGIZATION OFF DELAY NOTC – NORMALLY OPEN, TIMED CLOSING WHEN ENERGIZED NCTO – NORMALLY CLOSED, TIMED OPENING WHEN ENERGIZED NOTO – NORMALLY OPEN, TIMED OPENING WHEN DE-ENERGIZED NCTC – NORMALLY CLOSED, TIMED CLOSING WHEN DE-ENERGIZED
—	* – ##	FIELD INSTRUMENT, TAG NO. AS INDICATED * INDICATES INSTRUMENT TYPE DEFINED ON LOOP SHEETS OR P & ID ## INDICATES LOOP NO.
	LS OR ■	LIQUID LEVEL (FLOAT) SWITCH NORMALLY OPEN, CLOSES ON RISING LEVEL NORMALLY CLOSED, OPENS ON RISING LEVEL
	PS OR ■	PRESSURE OR VACUUM SWITCH NORMALLY OPEN, CLOSES ON RISING PRESSURE NORMALLY OPEN, CLOSES ON DROPPING PRESSURE NORMALLY CLOSED, OPENS ON RISING PRESSURE NORMALLY CLOSED, OPENS ON DROPPING PRESSURE
	TS OR T OR ■	TEMPERATURE SWITCH OR THERMOSTAT NORMALLY OPEN, CLOSES ON RISING TEMPERATURE NORMALLY OPEN, CLOSES ON DROPPING TEMPERATURE NORMALLY CLOSED, OPENS ON RISING TEMPERATURE NORMALLY CLOSED, OPENS ON DROPPING TEMPERATURE
	FS OR ■	FLOW SWITCH (AIR, WATER, ETC.) NORMALLY OPEN, CLOSES ON INCREASED FLOW NORMALLY CLOSED, OPENS ON INCREASED FLOW
	ZS OR ■	POSITION (LIMIT) SWITCH NORMALLY OPEN NORMALLY OPEN – HELD CLOSED NORMALLY CLOSED NORMALLY CLOSED – HELD OPEN
	TQ OR ■	TORQUE SWITCH NORMALLY OPEN, CLOSES ON HIGH TORQUE NORMALLY CLOSED, OPENS ON HIGH TORQUE
#	—	UTILIZED IN CONJUNCTION WITH OTHER CONTROL SCHEMATIC SYMBOLS TO DEPICT THE PHYSICAL LOCATION OF THE DEVICE # REPRESENTS LOCATION SEE LOCATION LEGEND ON DRAWING
	—	CONDUCTORS OR CONDUITS CROSSING PATHS BUT NOT CONNECTED
	—	CONDUCTORS ELECTRICALLY CONNECTED
	—	INDICATES LIMITS OF ELECTRICAL EQUIPMENT OR WIRING ENCLOSURE

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
LA	—	LIGHTNING ARRESTER
		GROUND OR GROUND ROD
30A	—	FUSE, AMPERE RATING AS NOTED
	HTR	STRIP HEATER OR HEATING ELEMENT
	—	INDUCTOR
TG	TG	TACHOMETER GENERATOR
	—	CONTACT, NORMALLY OPEN (NO)
	—	CONTACT, NORMALLY CLOSED (NC)
	—	OVERLOAD RELAY HEATER
K	—	KEY INTERLOCK
TB	—	TERMINAL OR TEST BLOCK
RTD	—	RESISTANCE TEMPERATURE DETECTOR
VE OR VE	—	VIBRATION DETECTOR
DM	DM	DAMPER MOTOR
ETM	—	ELAPSED TIME METER
M	M	MOTOR OPERATED VALVE OR GATE

ABBREVIATIONS	
A	AMPS
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AL	ALUMINUM
AIC	AMPERE INTERRUPTING CAPACITY
AMP	AMPERE
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
BLDG	BUILDING
C	CONDUIT
CB	CIRCUIT BREAKER
CGD	COMBUSTIBLE GAS DETECTOR
CKT	CIRCUIT
CLB	CURRENT LIMITING BREAKER
CLF	CURRENT LIMITING FUSE
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CS	CONTROL SWITCH
CT	CURRENT TRANSFORMER
CU	COPPER
CWS	CONDUIT WALL SEAL
DC	DIRECT CURRENT
DIA	DIAMETER
DMU	DIGITAL METERING UNIT
DN	DOWN
EC	EMPTY CONDUIT
ELEC	ELECTRICAL

ABBREVIATIONS (CONTINUED)	
ELEV	ELEVATION
EM	EMERGENCY
ENCL	ENCLOSURE OR ENCLOSED
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EX	EXISTING
FO	FIBER OPTIC
FU	FUSE
GCP	GENERATOR CONTROL PANEL
GEN	GENERATOR
G, GND	GROUND
GFI	GROUND FAULT INTERRUPTER
GRS	GALVANIZED RIGID STEEL
HACR	HEATING & AIR CONDITIONING RATED
HH	HANDHOLE
HT	HEIGHT
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HZ	HERTZ
INSTR	INSTRUMENT
K	KILO (PREFIX)
kcmil	1000 CIRCULAR MILS
KVA	KILOVOLT AMPERES
KW	KILOWATTS
LA	LIGHTING ARRESTER
LTG	LIGHTING
LP	LIGHTING PANEL
LV	LOW VOLTAGE
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MTD	MOUNTED
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
N	NEUTRAL
NC	NORMALLY CLOSED
NO	NORMALLY OPEN OR NUMBER
NTS	NOT TO SCALE
OH	OVERHEAD
PB	PULL BOX
OL	OVERLOAD
PCP	PUMP CONTROL PANEL
PH	PHASE
PMH	POWER MANHOLE
PNL	PANEL OR PANELBOARD
PR	PAIR
PRI	PRIMARY
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
RECPT	RECEPTACLE
REQD	REQUIRED
QTY	QUANTITY
SA	SURGE ARRESTER
SEC	SECONDS OR SECONDARY
SH	SHIELDED
SHH	SIGNAL HANDHOLE
SS	STAINLESS STEEL
SV	SOLENOID VALVE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TC	TIME TO CLOSE OR TRAY CABLE
TEL	TELEPHONE
TO	TIME TO OPEN
TVSS	TRANSIENT VOLTAGE SURGE SUPRESSOR
TS	TWISTED SHIELDED
TYP	TYPICAL
UG	UNDERGROUND
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VA	VOLT AMPS
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS, WIDTH, WITH, WIRE
WP	WEATHERPROOF
XP	EXPLOSION PROOF
XFMR	TRANSFORMER

GENERAL NOTE

THIS IS A STANDARD LEGEND. SOME SYMBOLS MAY NOT APPEAR ON THE DRAWINGS.

US Army Corps of Engineers
Kansas City District

WILLIAM J.RYAN JR.
N.J. PROFESSIONAL ENGINEER NO. 24GE04684600

Mark	Description	Date	Appr.
2	ADDRESSED USEPA AND USACE COMMENTS	1/2016	WR
1	GENERAL REVISIONS - ADDED BUILDING DEMOLITION	11/2015	WR

Designed by: M.MAHBOOB
Dwn by: B.GATHONI
Ckd by: W.RYAN
Reviewed by: W.RYAN
Submitted by: K. TAN
Date: JANUARY 2016
Task Order: 003
Contract no.: W912DQ-11-D-3004
Plot date: 1/7/2016
Plot by: Barry, Andrew J.
Scale: 1:1
ANSIF
File name: E001SYAB.dwg

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI
CDM Federal Programs Corporation

SYNCON RESINS SUPERFUND SITE
SOUTH KEARNY, HUDSON COUNTY, NEW JERSEY
REMEDIAL DESIGN

LEGENDS & ABBRIVIATION- I

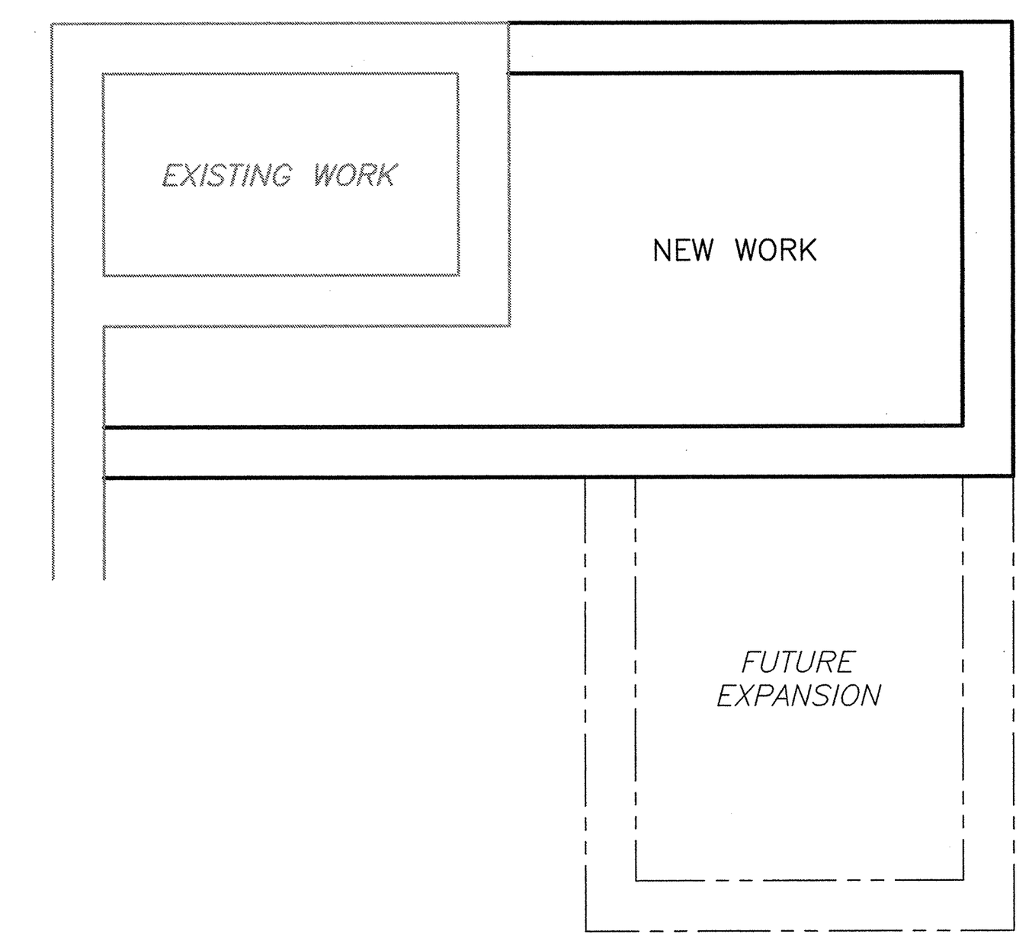
SHEET NO. E-1

SYMBOL	DESCRIPTION
A 3 b	INCANDESCENT, COMPACT FLUORESCENT OR H.I.D. TYPE LIGHTING FIXTURE "A" – FIXTURE TYPE (SEE LIGHTING FIXTURE SCHEDULE) "b" – CONTROLLED BY SWITCH "b" "3" – CIRCUIT NUMBER
A 3 b	FLUORESCENT TYPE LIGHTING FIXTURE, NOTATIONS SAME AS ABOVE
A 3 b	WALL MOUNTED INCANDESCENT, COMPACT FLUORESCENT OR H.I.D. TYPE LIGHTING FIXTURE, NOTATIONS SAME AS ABOVE
A 3 OR A 3	CROSS HATCH INDICATES LIGHTING FIXTURE THAT IS UNSWITCHED AND SHALL REMAIN ON AT ALL TIMES. NOTATIONS SAME AS ABOVE.
A 3 b OR A 3 b	SHADED AREA INDICATES LIGHTING FIXTURE THAT IS EQUIPPED WITH EMERGENCY BACKUP POWER SOURCE. NOTATIONS SAME AS ABOVE.
A 3	POLE MOUNTED AREA H.I.D. TYPE LIGHTING FIXTURE, NOTATIONS SAME AS ABOVE
A 3	POLE MOUNTED ROADWAY H.I.D. TYPE LIGHTING FIXTURE, NOTATIONS SAME AS ABOVE
EM 3 (*)	EMERGENCY LIGHTING BATTERY UNIT WITH TWO LAMP HEADS "EM" – FIXTURE TYPE (SEE LIGHTING FIXTURE SCHEDULE) "3" – SUPERVISORY CIRCUIT * – FIXTURE TAG #
R–2 BU–1(*)	REMOTE EMERGENCY ADJUSTABLE WALL LIGHTING FIXTURE WITH TWO LAMP HEADS "R–2" – FIXTURE TYPE (SEE LIGHTING FIXTURE SCHEDULE) * – HOME RUN TO BATTERY UNIT INDICATED. CONDUIT SHALL BE 3/4" AND CONTAIN (2) NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND (1) NO. 12 AWG GROUND CONDUCTOR UNLESS OTHERWISE INDICATED.
A 3	COMBINATION BATTERY UNIT AND EXIT SIGN. FILLED QUADRANT REPRESENTS FACE SIDE OF SIGN.
A 3	CEILING MOUNTED EXIT SIGN, NOTATIONS SAME AS ABOVE. WHEN USED, ARROW INDICATES DIRECTION OF EGRESS. FILLED QUADRANT REPRESENTS FACE SIDE OF SIGN. (DOUBLE FACE DOUBLE CHEVRONS SHOWN)
A 3	WALL MOUNTED EXIT SIGN, NOTATIONS SAME AS ABOVE. WHEN USED, ARROW INDICATES DIRECTION OF EGRESS. FILLED QUADRANT REPRESENTS FACE SIDE OF SIGN.
RH–3 E 3 BU–1(*)	REMOTE EMERGENCY CEILING LIGHTING FIXTURE. "RH–3" – FIXTURE TYPE (SEE LIGHTING FIXTURE SCHEDULE) "3" – SUPERVISORY CIRCUIT * – HOME RUN TO BATTERY UNIT INDICATED. CONDUIT SHALL BE 3/4" AND CONTAIN 2 NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND 1 NO. 12 AWG GROUND CONDUCTOR UNLESS OTHERWISE INDICATED.
	HOME RUN TO DESIGNATED EQUIPMENT. BRANCH CIRCUIT CONDUIT WITH 2 NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND 1 NO. 12 AWG GROUND CONDUCTOR UNLESS OTHERWISE NOTED. NUMBER OF ARROWS INDICATE NUMBER OF CIRCUITS. FOR MINIMUM SIZE CONDUIT PERMITTED REFER TO THE SPECIFICATIONS.
	CONDUIT CONCEALED IN WALL, IN SLAB ABOVE, OR ABOVE CEILING.
	CONDUIT CONCEALED IN OR BELOW FLOOR OR UNDERGROUND.
	CONDUIT RUN EXPOSED. RUN PARALLEL OR PERPENDICULAR TO STRUCTURE OR WALL.
X	'X' INDICATES EXPLOSION PROOF CONDUIT SEAL FITTING.
	CONCRETE ENCASED DUCTBANK. WIDTH VARIES, SEE DUCTBANK SECTION/DETAILS FOR REQUIREMENTS AND WIDTH
	CONDUIT STUBBED OUT AND CAPPED
(2) 3"C., 3#3/0, 1#2G	DENOTES A QUANTITY OF TWO (2) 3–INCH CONDUITS EACH CONTAINING THREE NO. 3/0 AWG CONDUCTORS AND 1 NO. 2 AWG GROUND CONDUCTOR.
2–2/C#16 SH	DENOTES A QUANTITY OF TWO INSTRUMENT CABLES. EACH CABLE TO CONSIST OF TWO NO. 16 AWG CONDUCTORS TWISTED TOGETHER AND COVERED WITH A METALLIC SHIELD AND AN OVERALL PROTECTIVE JACKET. REFER TO THE SPECIFICATIONS FOR THE EXACT CABLE TO BE PROVIDED.
2–3/C#16 SH	SAME AS ABOVE EXCEPT CABLE TO CONSIST OF THREE NO. 16 AWG CONDUCTORS TWISTED, SHIELDED AND COVERED WITH AN OVERALL PROTECTIVE JACKET. REFER TO THE SPECIFICATIONS FOR THE EXACT CABLE TO BE PROVIDED.
(3) 4"C.	THREE 4–INCH CONDUITS
	FLEXIBLE METAL CONDUIT "WHIP" (3/4"C., 2#12, 1#12G UNLESS OTHERWISE NOTED) FOR RECESSED LIGHTING FIXTURES AND LIQUID TIGHT MOTOR CONNECTIONS
X	CONDUIT SEAL FITTING SHOWN IN OTHER THAN CODE REQUIRED LOCATIONS.
⊠	INDICATES MOTOR STARTER AND/OR MOTOR CONTROL EQUIPMENT WITHIN THE ENCLOSURE.

SYMBOL	DESCRIPTION
$ a	SINGLE POLE SWITCH "a" INDICATES FIXTURES CONTROLLED.
$ 2 a	DOUBLE POLE SWITCH "a" INDICATES FIXTURES CONTROLLED.
$ 3 c	THREE WAY SWITCH "c" INDICATES FIXTURES CONTROLLED.
$ 4 a	FOUR WAY SWITCH "a" INDICATES FIXTURES CONTROLLED.
$ D a	DIMMER SWITCH "a" INDICATES FIXTURES CONTROLLED
$ OS	SINGLE POLE SWITCH "OS" INDICATES A PASSIVE INFRARED OCCUPANCY SENSOR
$ 2 OS	DOUBLE POLE SWITCH "OS" INDICATES PROGRAMMABLE OCCUPANCY SENSOR CAPABLE OF INBOARD/OUTBOARD SWITCHING
$ DT	SINGLE POLE SWITCH "DT" INDICATES DUAL TECHNOLOGY PROGRAMMABLE OCCUPANCY SENSOR CAPABLE OF SENSING MOTION AND SOUND
C 3	LIGHTING CONTACTOR WITH NUMBER OF POLES AS INDICATED
TM	TIME SWITCH
	PUSH BUTTON STATION
TYPE A	INDICATES ALL LIGHTING FIXTURES WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE TYPE "A" UNLESS OTHERWISE NOTED. SEE LIGHTING FIXTURE SCHEDULE FOR TYPES
LP–#	LIGHTING PANELBOARD (LP)
PP–#	POWER PANELBOARD (PP) OR DISTRIBUTION PANELBOARD (DP)
LCP–#	LIGHTING CONTACTOR PANELBOARD (LCP)
* 4	DUPLEX RECEPTACLE, 20A, 120V, 2P, 3W * GFCI – GROUND FAULT CIRCUIT INTERRUPTER TYPE WP – WEATHERPROOF T – TRANSIENT VOLTAGE SURGE SUPPRESSOR IC – ISOLATED GROUND 4 – CIRCUIT NUMBER
* 4	DUPLEX RECEPTACLE, 20A, 120V, 2P, 3W MOUNTED ABOVE COUNTER–TOP OR 42" AFF * NOTATIONS SAME AS ABOVE
* 60 3 4W	SPECIAL PURPOSE RECEPTACLE * – VOLT RATING "3" – NUMBER OF POLES "60" – AMPERE RATING "4W" – 4 WIRES IN ADDITION TO GROUND
	MULTI–OUTLET ASSEMBLY, SYMBOL DENOTES RECEPTACLE TYPE
	FLOOR OUTLET BOX WITH TYPE OUTLET INDICATED
	UNDER FLOOR DUCT SYSTEM WITH TYPE OUTLETS INDICATED
	THREE CELL UNDER FLOOR DUCT SYSTEM JUNCTION BOX
J OR J	JUNCTION BOX
P	PULL BOX
TC	TERMINAL CABINET
OS	OCCUPANCY SENSOR
PC	PHOTOCELL
ESA	EMERGENCY EYEWASH/SHOWER ALARM STATION WITH FLOW SWITCH(ES)
	INDICATED EQUIPMENT AND MATERIALS TO BE DEMOLISHED
DUST	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 12 CONSTRUCTION (OR GASKETED AND SUITABLE FOR USE IN A WET LOCATION WHERE NEMA STANDARDS DO NOT APPLY) UNLESS OTHERWISE NOTED.
DAMP OR WET	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 4 CONSTRUCTION (OR GASKETED AND SUITABLE FOR USE IN A WET LOCATION WHERE NEMA STANDARDS DO NOT APPLY) UNLESS OTHERWISE NOTED.
CORROSIVE	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 4X CONSTRUCTION (OR CORROSION RESISTANT CONSTRUCTION SUITABLE FOR USE IN A WET LOCATION WHERE NEMA STANDARDS DO NOT APPLY) UNLESS OTHERWISE NOTED.
CLASS I, DIV. 1 GROUP D	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL CONFORM TO N.E.C. REQUIREMENTS FOR THE HAZARDOUS AREA CLASSIFICATION SHOWN.

SYMBOL	DESCRIPTION
	GROUND SYSTEM GRID OR LOOP, 36" BELOW FINISHED GRADE UNLESS OTHERWISE NOTED.
	EXOTHERMIC WELD CONNECTION
	3/4" x 10'–0" GROUND ROD. UNLESS SPECIFIED OTHERWISE.
	GROUND ROD TEST WELL STATION (SEE DETAIL SHEET FOR REQUIREMENTS)
	COMMUNICATION SYSTEMS
K	TELEPHONE OUTLET FOR DESK TYPE HANDSET K = KEY SYSTEM
K	TELEPHONE OUTLET FOR WALL TYPE HANDSET (MOUNT UP 4'–6") K = KEY SYSTEM
	PAGE/PARTY TELEPHONE OUTLET FOR DESK TYPE HANDSET
	PAGE/PARTY TELEPHONE OUTLET FOR WALL TYPE HANDSET, MOUNT UP 4'–6"
S H W	PAGING SPEAKER, WALL MOUNTED H = HORN TYPE W = WIDE ANGLE TYPE
S W	PAGING SPEAKER, WALL MOUNTED, BI–DIRECTIONAL, HORN TYPE W = WIDE ANGLE TYPE
S	PAGING SPEAKER, FLUSH MOUNTED CEILING TYPE
S	PAGING SPEAKER, SURFACE MOUNTED CEILING TYPE
VC	REMOTE WALL MOUNTED VOLUME CONTROL FOR CEILING SPEAKER, MOUNT UP 5'–0"
A	PAGING SPEAKER AMPLIFIER ASSEMBLY
TM	TELEPHONE CABINET OR BACKBOARD AS NOTED
P OR C	"C" – DATA INPUT/OUTPUT CABLE OUTLET "P" – PROCESS COMPUTER SYSTEM (CAT6 RJ–45 JACK)
	SECURITY SYSTEMS
SACP	SECURITY ALARM CONTROL PANEL
DS	SECURITY ALARM DOOR SWITCH
K	SECURITY ALARM KEY PAD
R	SECURITY SYSTEM CARD ACCESS READER
WS	SECURITY ALARM WINDOW SWITCH
	SECURITY ALARM MOTION DETECTOR
CCTV	CLOSED CIRCUIT TV CAMERA
PTZ	PAN, TILT, ZOOM CAMERA LENS CONTROLS
GB	GLASS BREAK DETECTOR
	FIRE ALARM SYSTEMS
H 200 R	FIRE ALARM HEAT DETECTOR 135 FIXED TEMPERATURE UNLESS OTHERWISE NOTED. "200" – 200 FIXED TEMPERATURE "R" – FIXED TEMPERATURE RATE–OF–RISE TYPE
I	FIRE ALARM SMOKE DETECTOR PHOTOELECTRIC TYPE UNLESS OTHERWISE NOTED. "I" – IONIZATION TYPE.
D	FIRE ALARM DUCT SMOKE DETECTOR
FACP	FIRE ALARM CONTROL PANEL
FV	FIRE ALARM VENTILATION PANEL WITH GRAPHIC PANEL
FA	REMOTE FIRE ALARM ANNUNCIATOR PANEL
F	FIRE ALARM MASTER BOX
F	FIRE ALARM HORN, MOUNT UP 7'–6"
15 F	FIRE ALARM STROBE, MOUNT UP 6'–8" 15 = CANDELA RATING
15 F	FIRE ALARM HORN AND STROBE LIGHT COMBINATION, MOUNT UP 6'–8" 15 = CANDELA RATING
F	FIRE ALARM MANUAL PULL STATION, MOUNT UP 4'–0"

SYMBOL	DESCRIPTION
VSS	SPRINKLER VALVE SUPERVISORY SWITCH.
SFS	SPRINKLER FLOW ALARM SWITCH
F	FIRE ALARM BELL
FB	WEATHERPROOF HI–INTENSITY FIRE ALARM STROBE LIGHT WITH HORN
PIR	PASSIVE INFRARED DETECTOR
R	SMOKE BEAM DETECTOR (RECEIVER)
T	SMOKE BEAM DETECTOR (TRANSMITTER)
	FIRE ALARM SMOKE DETECTOR REMOTE INDICATOR AND TEST SWITCH



EXISTING OR FUTURE CONDITION DESIGNATION

A / E–4 — SHEET NO. WHERE DETAIL IS DRAWN

SYMBOL WHERE THERE IS A DETAIL

1 / E–4 — SHEET NO. WHERE SECTION IS DRAWN

SYMBOL WHERE THERE IS A SECTION

DETAIL 1/4" = 1'–0" A / E–3 — SHEET NO. WHERE THERE IS A DETAIL

SYMBOL WHERE DETAIL IS DRAWN

DETAIL SYMBOL

SECTION 1/4" = 1'–0" 1 / E–3 — SHEET NO. WHERE SECTION IS TAKEN

SYMBOL WHERE SECTION IS DRAWN

SECTION SYMBOL

GENERAL NOTE

THIS IS A STANDARD LEGEND. SOME SYMBOLS MAY NOT APPEAR ON THE DRAWINGS.

NOTES:

1. THE PLANS DO NOT SHOW RACEWAYS AND CONDUCTORS BETWEEN RECEPTACLES, LIGHTING FIXTURES AND SWITCHES. HOWEVER, THE CONTRACTOR SHALL FURNISH AND INSTALL THESE CONNECTIONS IN ACCORDANCE WITH THE ASSIGNED FIXTURE OR RECEPTACLE CIRCUIT NUMBER AND SWITCH DESIGNATIONS. HOME RUNS SHOWN CONCEALED SHALL BE INDICATIVE OF ENTIRE CIRCUIT INSTALLATION. THE SAME SHALL APPLY FOR HOME RUNS SHOWN EXPOSED. REFER TO SPECIFICATIONS FOR MATERIALS AND INSTALLATION REQUIREMENTS.

2. CONDUIT AND WIRE (NOT SHOWN) FOR FIXTURES, SWITCHES AND/OR RECEPTACLES SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR AND SHALL BE:
a. 3/4" (MIN.) CONDUIT RUN
1. EXPOSED IN UNFINISHED AREAS
2. CONCEALED ABOVE HUNG CEILINGS AND IN WALLS AND SLABS IN FINISHED AREAS
b. NO. 12 COPPER (MIN.) TYPE "XHHW–2" NO. OF WIRES AS REQUIRED.

3. THE WIRING DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUIT REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. MODIFICATIONS ACCEPTABLE TO THE ENGINEER MAY BE MADE BY THE CONTRACTOR TO ACCOMMODATE EQUIPMENT ACTUALLY PURCHASED. THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND/OR SPECIFICATIONS.

4. SWITCHES SHALL BE MOUNTED 4'–0" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. RECEPTACLES SHALL BE MOUNTED 4'–0" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED, EXCEPT RECEPTACLES IN OFFICES OR AREAS WITH HUNG CEILINGS, OR AREAS WITH 9–INCH CONCRETE BLOCK WALLS, WHICH SHALL BE MOUNTED 1'–6" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.

5. SWITCHGEAR AND MCC COMPARTMENT DESIGNATIONS AS INDICATED BELOW:
BLANK: NOT INTENDED FOR USE. PLATE ONLY
SPACE: CONTAINS NECESSARY BUS AND HARD– WARE FOR FUTURE ADDITION OF BREAKERS OR STARTERS WITHIN SIZE RANGE SHOWN
SPARE: CONTAINS A COMPLETE BREAKER OR STARTER INSTALLED, SIZE AS INDICATED FOR FUTURE USE

US Army Corps of Engineers Kansas City District

WILLIAM J.RYAN JR.
N.J. PROFESSIONAL ENGINEER NO. 24GE04684600

Mark	Description	Date	Appr.
2	ADDRESSED USEPA AND USACE COMMENTS	1/2016	WR
1	GENERAL REVISIONS - ADDED BUILDING DEMOLITION	11/2015	WR

Designed by: M.MAHBOOB | Dwn by: B.GATHONI | Ckd by: W.RYAN | Reviewed by: W.RYAN | Submitted by: K. TAN
Date: JANUARY 2016 | ANSIF | Task Order: 003 | Contract no.: W912DQ-11-D-3004 | Plot date: 1/8/2016 | Plot by: Barry, Andrew J. | Scale: 1:1

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS KANSAS CITY, MISSOURI

CDM Federal Programs Corporation

File name: E002SYAB.dwg

SYNCON RESINS SUPERFUND SITE SOUTH KEARNY, HUDSON COUNTY, NEW JERSEY REMEDIAL DESIGN

LEGENDS & ABBRIVIATION-II

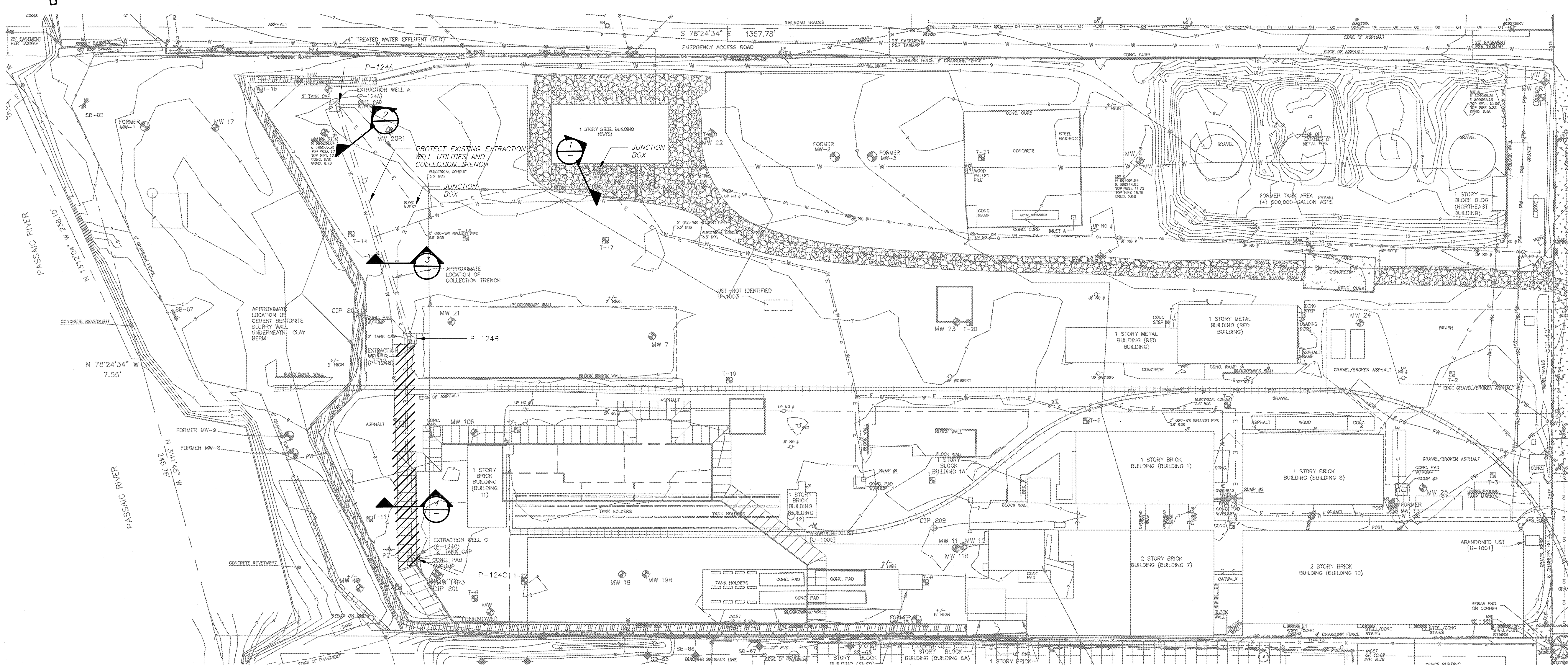
SHEET NO.

E-2

100% DESIGN – REVISION 2

NOTE:

1. EXISTING SECTION 4 DUCT BANK TO BE DEMOLISHED TO ALLOW FOR SOIL REMEDIATION AND THEN REPLACED WITH NEW DUCT BANK TO MATCH EXISTING SECTION FROM NEW HANDHOLE, REFER TO SHEET E-4 FOR ADDITIONAL DEATAILS.



SITE

PLAN

1" = 40'

KEYED NOTE:

(1) CONTRACTOR SHALL VERIFY CONDUIT SIZES AND WIRE SIZE, AND QUANTITY IN THE FIELD.

CONDUIT AND WIRE LEGEND (NUMBERS REFERENCE THIS SHEET ONLY)	
NO.	DESCRIPTION
1	2"C, 3#8, 1#6 GND
2	2"C, 6#14 (1)

EXISTING CONCRETE ENCASED DUCT BANK

(1)	(1)	(1)
(2)	(2)	(2)

SECTION 1 — NTS

EXISTING CONCRETE ENCASED DUCT BANK

(1)	(2)

SECTION 2 — NTS

EXISTING CONCRETE ENCASED DUCT BANK

(1)	(1)
(2)	(2)

SECTION 3 — NTS

EXISTING CONCRETE ENCASED DUCT BANK (NOTE 1)

(1)	(1)

SECTION 4 — NTS

1" = 40'
20 0 40

US Army Corps of Engineers Kansas City District

WILLIAM J.RYAN JR.
N.J. PROFESSIONAL ENGINEER NO. 24GE04684600

Mark	Description	Date	Appr.
2	ADDRESSED USEPA AND USACE COMMENTS	1/2016	WR
1	GENERAL REVISIONS - ADDED BUILDING DEMOLITION	11/2015	WR

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS KANSAS CITY, MISSOURI

CDM Federal Programs Corporation

Designed by: M.MAHBOOB | Dwn by: B.GATHONI | Ckd by: W.RYAN | Reviewed by: W.RYAN | Submitted by: K. TAN | Date: JANUARY 2016 | Task Order: 003 | Contract no.: W912DQ-11-D-3004 | Plot date: 1/8/2016 | Plot by: Barry, Andrew J. | Scale: 1:1 | ANSIF

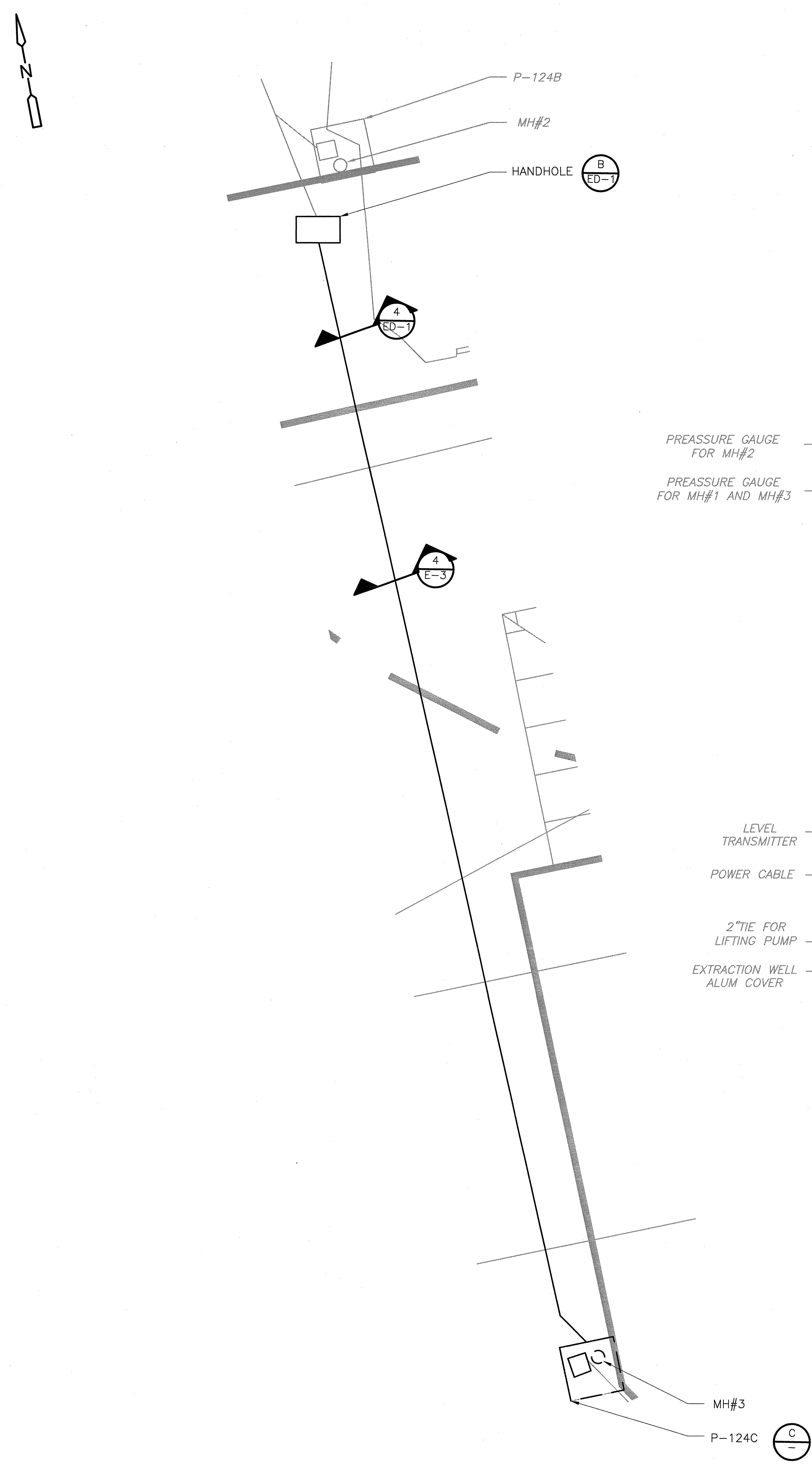
File name: ESTPL001.dwg

SYNCON RESINS SUPERFUND SITE
SOUTH KEARNY, HUDSON COUNTY, NEW JERSEY
REMEDIAL DESIGN

ELECTRICAL SITE PLAN

SHEET NO. **E-3**

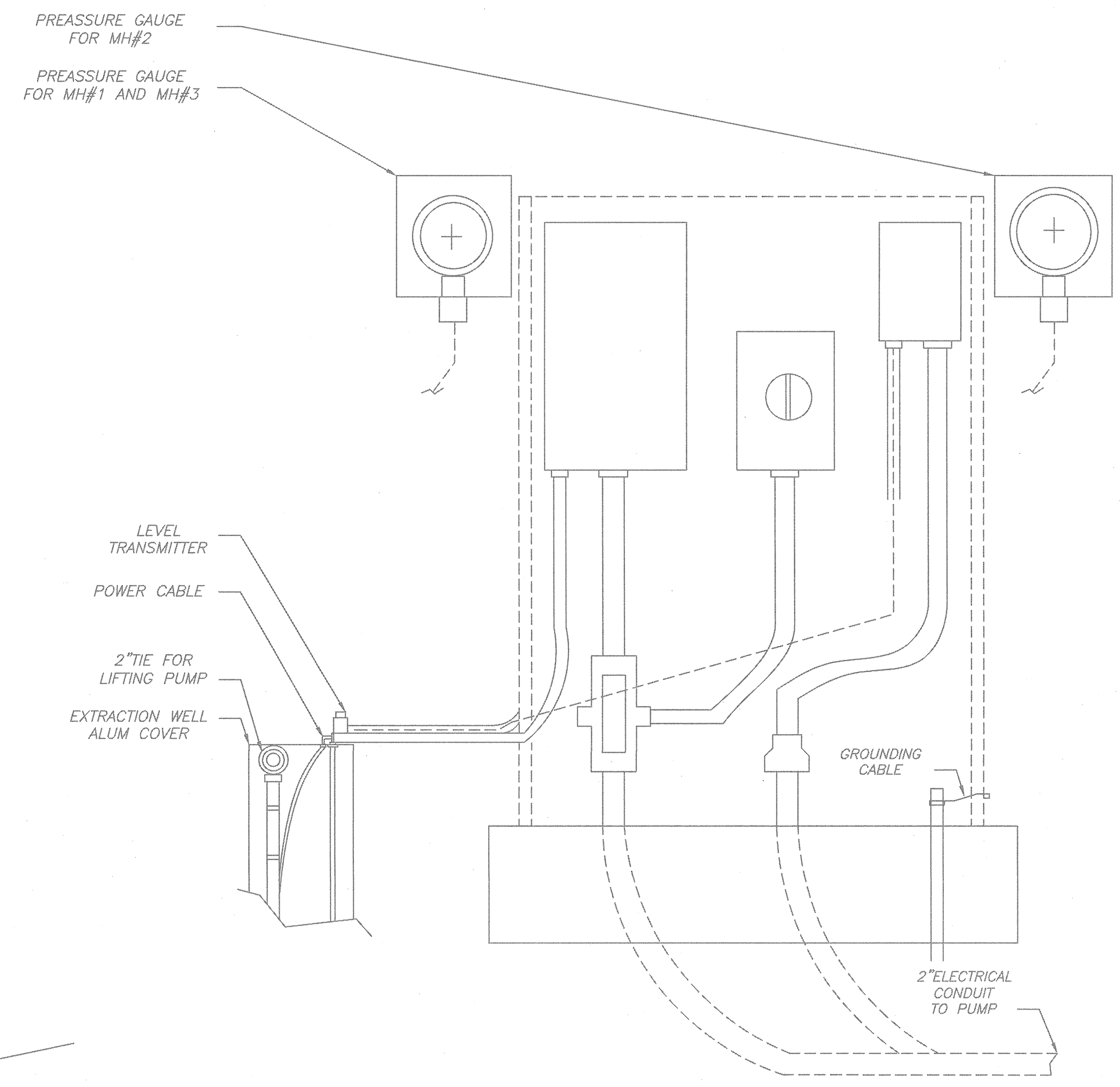
100% DESIGN – REVISION 2



ENLARGED SITE

PLAN

1" = 20'



TYPICAL CONTROL PANEL

DETAIL C/–

NTS

DEMOLITION NOTES:

1. SURVEY THE EXISTING ELECTRICAL SYSTEMS AND EQUIPMENT IDENTIFIED FOR REMOVAL WITH REPRESENTATIVES FROM THE OTHER TRADES PRIOR TO PERFORMING ANY DEMOLITION WORK. IDENTIFY ALL CONDUIT AND EQUIPMENT TO BE REMOVED WITH TAGS OR PAINT.
2. WHERE A PIECE OF EQUIPMENT IS TO BE REMOVED, ALL ASSOCIATED ANCILLARY COMPONENTS (E.G., SOLENOID VALVES, PRESSURE SWITCHES, ETC) AND ASSOCIATED WIRING AND CONDUIT SHALL ALSO BE REMOVED.
3. EQUIPMENT, BUILDING OR STRUCTURES SCHEDULED FOR COMPLETE DEMOLITION SHALL BE MADE SAFE FROM ELECTRICAL SHOCK HAZARD PRIOR TO DEMOLITION. DISCONNECT ALL ELECTRICAL POWER, COMMUNICATIONS, ALARM AND SIGNAL SYSTEM.
4. REMOVE ELECTRICAL WORK ASSOCIATED WITH EQUIPMENT SCHEDULED FOR DEMOLITION EXCEPT THOSE PORTIONS INDICATED TO REMAIN OR BE REUSED.
5. UNLESS OTHERWISE SPECIFICALLY NOTED, REMOVE UNUSED EXPOSED CONDUIT AND SUPPORT SYSTEMS BACK TO POINT OF CONCEALMENT INCLUDING ABANDONED CONDUIT ABOVE ACCESSIBLE CEILING FINISHES. REMOVE UNUSED WIRING BACK TO SOURCE (OR NEAREST POINT OF USAGE).
6. DISCONNECT AND REMOVE ABANDONED PANEL BOARDS, DISCONNECT SWITCHES, CONTROL STATIONS, DISTRIBUTION EQUIPMENT, ETC.
7. LOCK OUT AND TAG OUT PUMP 124C, REFER TO SHEET E-5.
8. DISCONNECT ALL EXISTING BRANCH CIRCUIT AND INSTRUMENTATION/CONTROL CONDUCTORS FOR THE EXISTING LOCAL PUMP CONTROL PANEL.
9. SECURE ALL EXISTING INSTRUMENT AND MOTOR LEAD CONDUCTORS AT WELL HEAD.
10. BREAK EXISTING DUCT BANK AT THE LOCATION OF PUMP 124B AND INSTALL NEW HANDHOLE TO INTERCEPT EXISTING 2" CONDUITS SERVICE TO PUMP 124C.
11. PULL AND SECURE PUMP 124C MOTOR BRANCH CIRCUIT AND CONTROL WIRES BACK TO NEW HANDHOLE LOCATED IN PUMP 124B AREA.
12. REMOVE EXISTING CONTROL PANEL, CONCRETE PAD AND DUCT BANK AT P-124C LOCATION. SALVAGE EXISTING CONTROL PANEL FOR REUSE.
13. CONTRACTOR SHALL DETERMINE THE FUNCTION OF ALL EXISTING PUMP CONTROL WIRING AND INSTRUMENTATION/SIGNAL WIRING BY TRACING OUT THE WIRING SCHEDULE TO BE REMOVED PRIOR TO DEMOLITION.

NEW WORK NOTES:

1. INSTALL NEW DUCT BANK FROM HANDHOLE TO NEW LOCATION OF LOCAL PUMP CONTROL PANEL OF PUMP 124C.
2. INSTALL NEW CONCRETE PAD FOR LOCAL PUMP CONTROL PANEL.
3. REINSTALL PREVIOUSLY REMOVED LOCAL PUMP CONTROL PANEL.
4. INSTALL NEW 10' GROUND ROD AND BOND LOCAL CONTROL PANEL.
5. RECONNECT ALL BRANCH CIRCUIT CONDUCTORS AND INSTRUMENTATION/CONTROL CONDUCTORS TO THE EXISTING PUMP LEADS AND ALL FIELD DEVICES.
6. CONTRACTOR SHALL RECONNECT ALL EXISTING PUMP CONTROL WIRING AND INSTRUMENTATION/SIGNAL WIRING AND ENSURE PROPER OPERATION OF THE WELL PUMP.

1" = 20'
10 0 20

US Army Corps of Engineers Kansas City District

WILLIAM J.RYAN JR.
N.J. PROFESSIONAL ENGINEER NO. 24GE04684600

Mark	Description	Date	Appr.
2	ADDRESSED USEPA AND USACE COMMENTS	1/2016	WR
1	GENERAL REVISIONS - ADDED BUILDING DEMOLITION	11/2015	WR

Designed by: M.MAHBOOB
Dwn by: B.GATHONI
Ckd by: W.RYAN
Reviewed by: W.RYAN
Submitted by: K. TAN
Date: JANUARY 2016
ANSIF
Task Order: 003
Contract no.: W912DQ-11-D-3004
Plot date: 1/8/2016
Plot by: Barry, Andrew J.
Scale: 1:1

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

CDM Federal Programs Corporation

File name: ESTPL002.dwg

SYNCON RESINS SUPERFUND SITE
SOUTH KEARNY, HUDSON COUNTY, NEW JERSEY
REMEDIAL DESIGN

ENLARGED PLAN

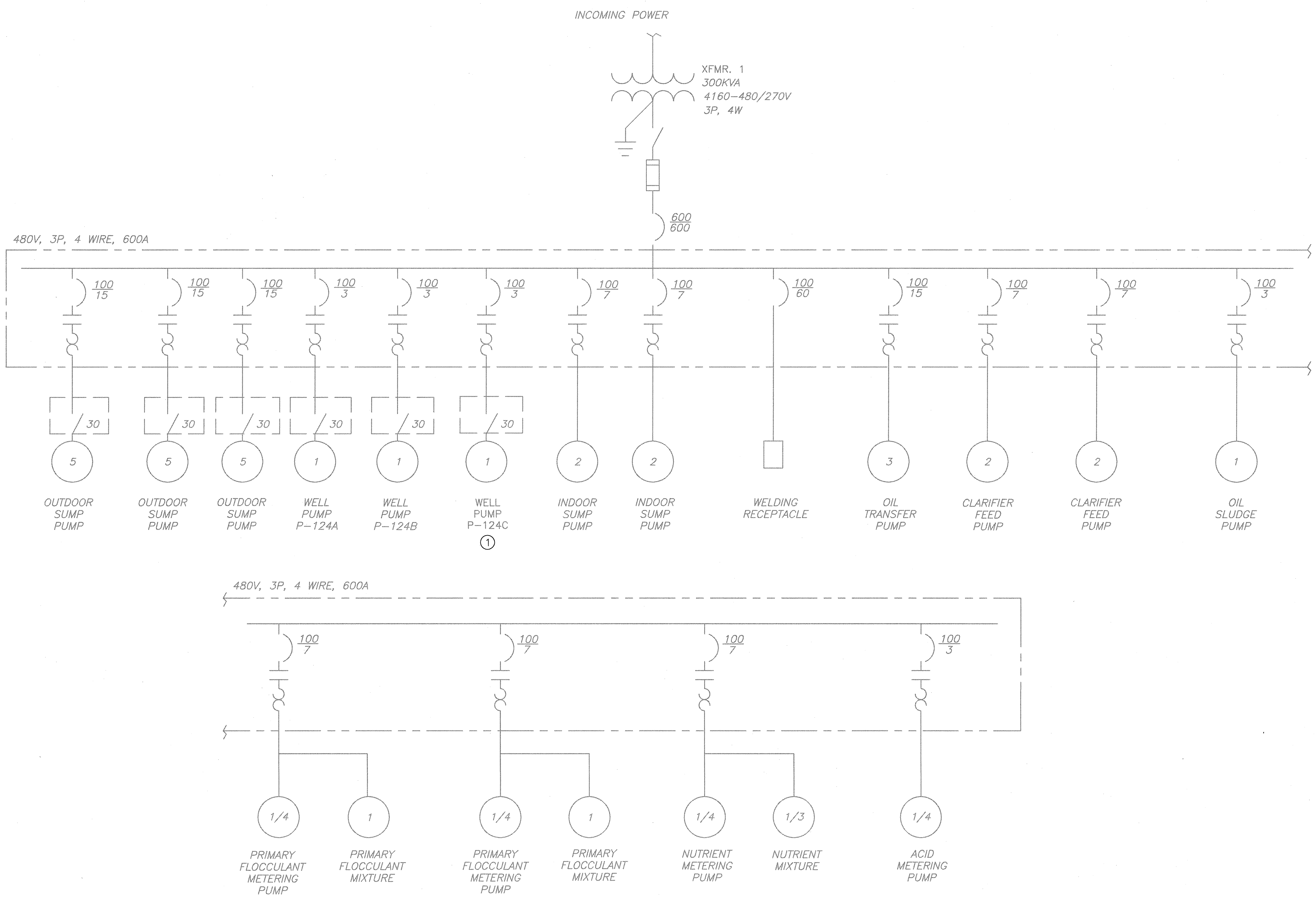
SHEET NO.

E-4

100% DESIGN – REVISION 2

KEY NOTE:

(1) CONTRACTOR SHALL LOCK OUT TAG OUT EXTRACTION WELL PUMP P–124C TEMPORARILY FOR CONSTRUCTION.



ONE–LINE DIAGRAM

DIAGRAM (1) NTS

US Army Corps of Engineers Kansas City District

WILLIAM J.RYAN JR.
N.J. PROFESSIONAL ENGINEER NO. 24GE04684600

Mark	Description	Date	Appr.
2	ADDRESSED USEPA AND USACE COMMENTS	1/2016	WR
1	GENERAL REVISIONS - ADDED BUILDING DEMOLITION	11/2015	WR

Designed by: M.MAHBOOB
Dwn by: B.GATHONI
Ckd by: W.RYAN
Reviewed by: W.RYAN
Submitted by: K. TAN
Date: JANUARY 2016
ANSIF
Task Order: 003
Contract no.: W912DQ-11-D-3004
Plot date: 1/8/2016
Plot by: Barry, Andrew J.
Scale: 1:1

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

CDM Federal Programs Corporation

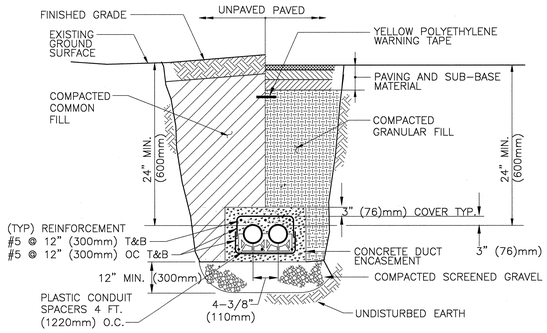
File name: EPDI001.dwg

SYNCON RESINS SUPERFUND SITE
SOUTH KEARNY, HUDSON COUNTY, NEW JERSEY
REMEDIAL DESIGN

EXISTING ONELINE DIAGRAM

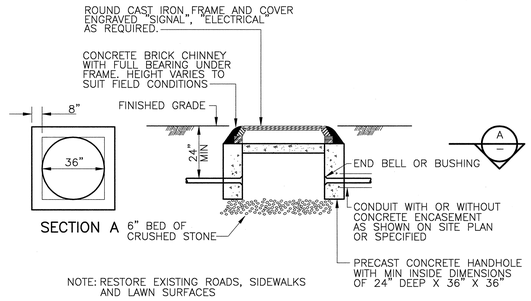
SHEET NO.
E-5

100% DESIGN – REVISION 2



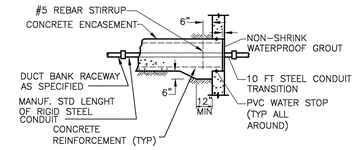
TYPICAL CONCRETE ENCASED SIGNAL CONDUIT

DETAIL A — NTS

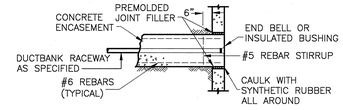


ELECTRIC HANDHOLE

DETAIL B — NTS



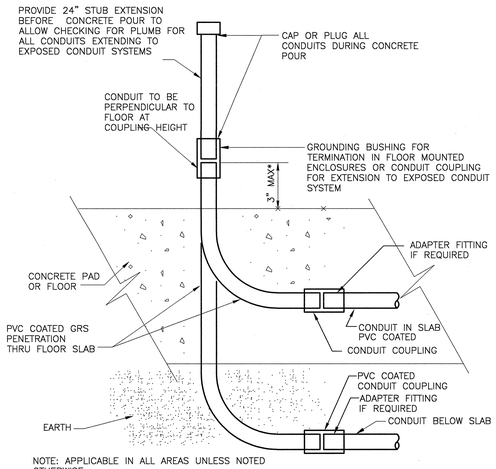
STRUCTURE PENETRATION



MANHOLE PENETRATION

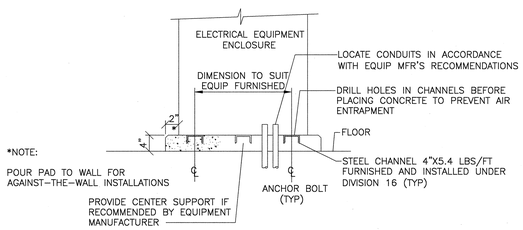
CONCRETE ENCASED CONDUIT PENETRATION AT MANHOLE OR STRUCTURE

DETAIL D — N.T.S.



CONDUIT STUB UP/FLOOR PENETRATION

DETAIL E — NTS



ELECTRICAL EQUIPMENT PAD

DETAIL F — NTS

CAST IN PLACE CONCRETE:

1. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 318 REQUIREMENTS.
2. ALL CONCRETE SHALL BE AIR-ENTRAINED WITH 2500 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
3. COARSE AGGREGATE SHALL BE ASTM C33 #9.
4. MINIMUM CEMEMTITIOUS CONTENT (INCLUDING FLY ASH [ASTM C618 CLASS F]) SHALL BE 440 LBS PER CUBIC YARD.
5. THE MAXIMUM WATER/CEMENT RATIO SHALL BE 0.62.
6. WATER REDUCING AGENT SHALL BE IN ACCORDANCE WITH ASTM C494.
7. SLUMP PER ASTM C143 SHALL BE 1-5 IN.
8. ALL CONCRETE SURFACES EXPOSED TO AIR, UNLESS OTHERWISE NOTED IN SPECIFICATIONS, SHALL BE TREATED WITH AN APPROPRIATE CURING COMPOUND AS SOON AS CEMENT FINISHING IS COMPLETED O FORMS ARE REMOVED.
9. ALL EXPOSED CORNERS OF CONCRETE SHALL HAVE A MINIMUM CHAMFER OF ¾" UNLESS OTHERWISE NOTED.
10. THE CONTRACTOR SHALL OBTAIN ENGINEER'S APPROVAL FOR THE LOCATION OF CONSTRUCTION JOINTS THAT ARE NOT SHOWN ON THE DRAWING.

REINFORCING STEEL:

1. REINFORCEMENT SHALL CONFORM TO ASTM A615, GRADE 60 REQUIREMMENTS.
2. ALL ACCESSORIES SHALL BE IN CONFORMANCE WITH ACI 315 REQUIREMENTS. REINFORCEMENT STEEL SHALL HAVE THE FOLLOWING CLEAR COVER UNLESS OTHERWISE NOTED:
   A. CONCRETE CAST AGAINST EARTH – 3".
   B. FORMED SURFACES IN CONTACT WITH SOIL, SEWAGE, WATER OR EXPOSED TO WEATHER – 2".
3. LAP SPLICES SHALL BE AS SHOWN ON THE DRAWINGS. FOR LAP SPLICES NOT SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL OBTAIN ENGINEER'S APPROVAL.
4. THE CONTRACTOR SHALL PREPARE PLACING DRAWINGS AND SCHEMATICS IN COMFORMANCE WITH ACI 315 REQUIRMENTS.

US Army Corps of Engineers
Kansas City District

WILLIAM J. RYAN JR. — N.J. PROFESSIONAL ENGINEER NO. 24GE04644600

Mark	Description	Date	Appr
2	ADDRESSED USEPA AND USACE COMMENTS	1/2016	WR
1	GENERAL REVISIONS - ADDED BUILDING DEMOLITION	11/2015	WR

Designed by: M.MAHBOOB
Drawn by: BATSON
Reviewed by: W.RYAN
Approved by: K. TAN
Date: JANUARY 2016
Task Order: 05
Contract no.: W912DQ-11-D-3004
Plot by: Barry, Andrew J.
Scale: 1:1
AMSF

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS KANSAS CITY, MISSOURI

CDM Federal Programs Corporation

File name: EDSDET01.dwg

SYNCON RESINS SUPERFUND SITE
SOUTH KEARNY, HUDSON COUNTY, NEW JERSEY
REMEDIAL DESIGN

ELECTRICAL DETAILS

SHEET NO.
ED-1

100% DESIGN – REVISION 2